

62 B8

LEVEL BOOK.

410

B

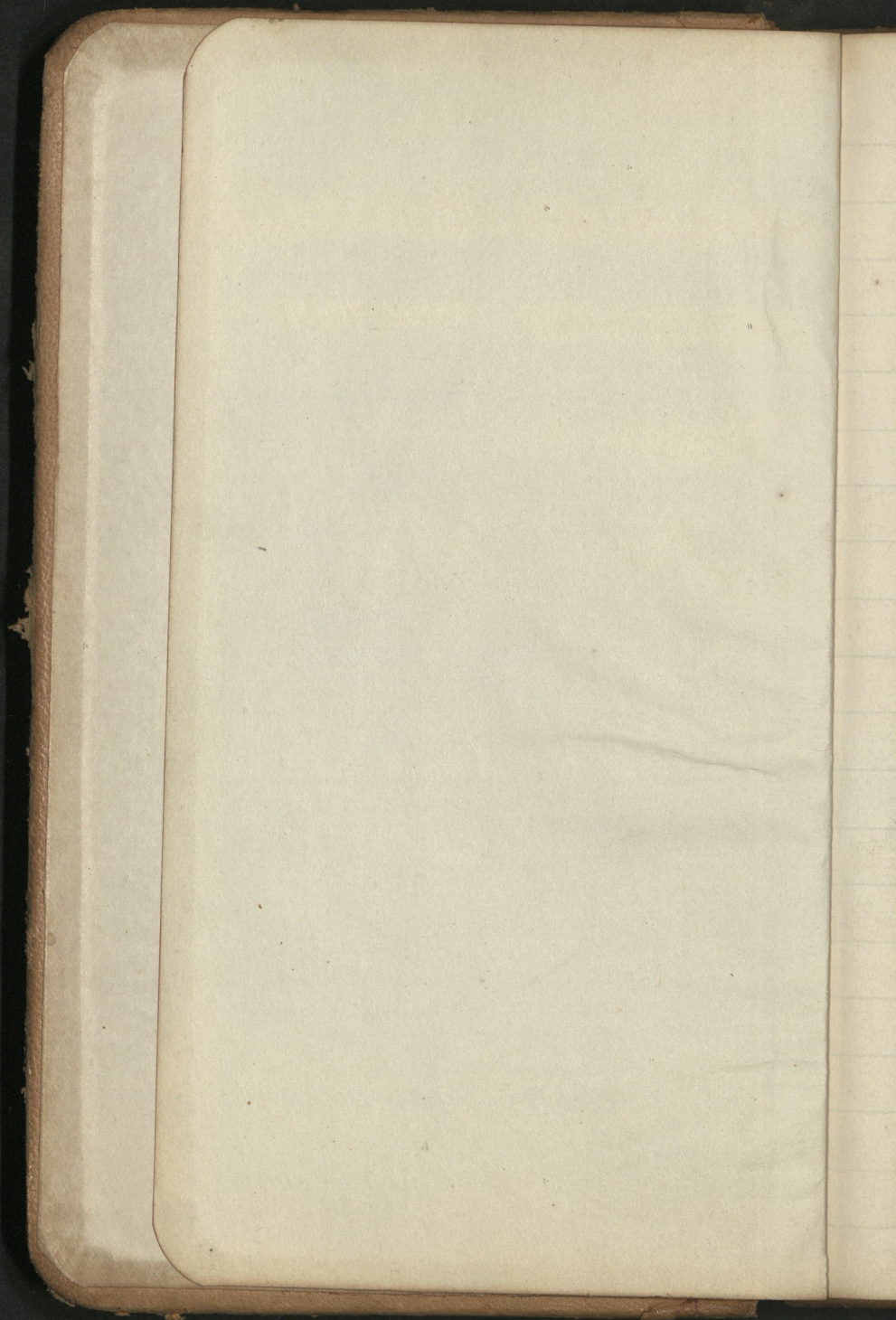
C

BRADSHAW MOUNTAIN R.R.

CROWN KING BRANCH

Construction Notes

Book No. 8.



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Section 4

Sta. Tail	Grade	L	C	R
203		$\frac{+74}{99}$	$\frac{00}{14}$	$\frac{-190}{332}$
+15		$\frac{+68}{97}$	$\frac{00}{20}$	$\frac{-188}{329}$
+25		$\frac{+47}{92}$	$\frac{00}{10}$	$\frac{-178}{315}$
+40		$\frac{+65}{96}$	$\frac{00}{10}$	$\frac{-180}{318}$
+50	+ 2.00	$\frac{+108}{107}$	$\frac{00}{20}$	$\frac{-186}{326}$
+55		$\frac{+68}{97}$	00	$\frac{-186}{326}$
+75		$\frac{+70}{98}$	00	$\frac{-210}{359}$
204		$\frac{+72}{98}$	$\frac{00}{22}$	$\frac{-158}{287}$
+25		$\frac{+85}{102}$	$\frac{00}{40}$	$\frac{-48}{136}$
204+50		$\frac{+100}{105}$	+36	$\frac{00}{80}$

1

Areas.		Cub yds.	
Exc.	Emb.	Exc.	Emb.

37.51	5320		
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		196	278
--	--	-----	-----

3305	4700		
------	------	--	--

		105	186
--	--	-----	-----

2390	5340		
------	------	--	--

		146	298
--	--	-----	-----

2865	5400		
------	------	--	--

		11.3	25.3
--	--	------	------

3240	8240		
------	------	--	--

		55	136
--	--	----	-----

2720	6570		
------	------	--	--

		20.5	51.3
--	--	------	------

28.00	73.50		
-------	-------	--	--

		32.3	52.3
--	--	------	------

Sta 203 to 204+50
Emb. 2425 cu.
made from cuts.

4178	3950		
------	------	--	--

		44.3	21.6
--	--	------	------

5388	720		
------	-----	--	--

		58.9	22
--	--	------	----

		242.5	
--	--	-------	--

7330	000		
------	-----	--	--

		887	
		306.2	

1000

147

Sta.	Grade	L	C	R
204+75		$\frac{+124}{11.1}$	+6.2	$\frac{+2.0}{8.5}$
205		$\frac{+138}{11.5}$	+6.8	$\frac{+2.8}{8.7}$
		Boulders $\frac{30 \times 50 \times 80}{40 \times 80 \times 90} = 15.1$		
+25		$\frac{+156}{11.9}$	+9.0	$\frac{+34}{8.9}$
+50	+20.0	$\frac{+155}{11.9}$	+7.2	$\frac{+26}{8.7}$
+75		$\frac{+120}{11.0}$	+5.2	$\frac{00}{8.0}$
		Boulder $\frac{30 \times 30 \times 90}{30 \times 30 \times 90} = 3.0$		
+85		$\frac{+98}{10.5}$	+3.2	$\frac{00}{8.0}$

End of Tail

Areas.		Cub. Yds.	
Exc.	Emb.	Exc	Emb

11836

306.2

117.3

13508

151
141.0

16960

203 to 205+85 Tail
Exp. 968.5 cu. yd.

146.4

Haul 202.746 to + along side free

146.56

" 277 " from 204+70 to
206+70 back up 596' = 1634 cu. yd.

112.9 Total Haul
waste 393.

9740

30
308

6880

872.7
95.8 = 0.750.
968.5

BM

v. J. P.

Sta	Grade	L	C	R
201+50	Go Ahead=	-184		00
204	Back up	32.3	-40	90

+20 5307.00

+25	-238 39.7	-81	-46 8.0	-27 10.7
-----	--------------	-----	------------	-------------

+50	-226 38.1	-105	-98 6.0	-46 13.3
-----	--------------	------	------------	-------------

+65	-224 37.8	-136	-86 10.0	-54 14.5
-----	--------------	------	-------------	-------------

+75	-150 27.6	-76	-48 13.6	
-----	--------------	-----	-------------	--

-3.02

204+90	-86 18.8	-31	00 8.0	
--------	-------------	-----	-----------	--

205+05	00 8.0	+24	+52 9.3	
--------	-----------	-----	------------	--

+20	+40 9.0	+8.1	+11.7 10.9	
-----	------------	------	---------------	--

+25	+112+160 10.8 5.0	+16.0	+12.0+12.7 6.0 11.2	
-----	----------------------	-------	------------------------	--

Boulders $\frac{3.0 \times 6.0 \times 7.0}{3.0 \times 4.0 \times 6.0} = 7.3$

205+35	+98 10.5	+14.8	+20.7 13.2	
--------	-------------	-------	---------------	--

Areas. Cub. Yds.
Exc Emb. Exc Emb

14700

2068

29975

Sta 204 to 205+05

Back sup. Emb. 929.0

3138 8790 made from
cuts - 50.0 from
Cut on L. Sta 201

37810

2044 (Class Borrow) $\frac{1}{2}$ LR 200
 $\frac{1}{2}$ SR 200
See Page 34

35769

1081

22586

826

000

7164

s.

1.0

7.7

133

4156

000

s.

7.1

51.4

929.0

V

14340

s.

3.2

384

27110

s.

7.8

7.3

105.3

29738

s.

21.7

162.7

413.6

V

Sta	Grade	L	C	R
205+50		$\frac{+82}{10.1}$	+15.2	$\frac{+200}{13.0}$

+60		$\frac{+84}{10.1}$	$\frac{+102}{10.2}$	$\frac{+246}{8.0}$	$\frac{+262}{14.6}$
-----	--	--------------------	---------------------	--------------------	---------------------

+70		$\frac{+36}{8.9}$	+6.0	$\frac{+86}{10.2}$
-----	--	-------------------	------	--------------------

+85		$\frac{00}{8.0}$	+1.2	$\frac{+42}{9.1}$
-----	--	------------------	------	-------------------

205+95	-3.02	$\frac{-54}{14.5}$	-1.2	$\frac{00}{8.0}$
--------	-------	--------------------	------	------------------

206+15		$\frac{-152}{27.9}$	-7.6	$\frac{-4.0}{12.5}$
--------	--	---------------------	------	---------------------

+40		$\frac{-23.0}{38.6}$	-13.8	$\frac{-82}{18.3}$
-----	--	----------------------	-------	--------------------

+54.8⁰ 5299.91

+55		$\frac{-302}{48.6}$	-11.6	$\frac{-9.4}{19.9}$
-----	--	---------------------	-------	---------------------

+70	-3.18	$\frac{-24.6}{40.8}$	-9.0	$\frac{-5.6}{14.7}$
-----	-------	----------------------	------	---------------------

206+85		$\frac{-16.8}{30.1}$	-6.0	$\frac{-2.4}{10.6}$
--------	--	----------------------	------	---------------------

Areas. Cub. Yds.
Exc Emb Exc Emb

28836

413.6
s. 15.8
1046

27669

Sept 70.7
s. 10.1 Class Slips 2R 78.7 cy.
70.9 Balance 1R 6434 "

106.10

Haul 367.3 yds. No. free
s. 11.2 " 300. from 205+30 to
37.0 206+45 = Total Haul 345 cy.

27.06

0.00

s. 0.8
33 4.0

0.00

32.40

667.3
54.8

722.1

937

220.72

3345

50181

2882 Emb 12194 cy.
1146.8 cy. made from cuts
726 made from
Cit on L Sta 201

535.90

2476 Class Borrow 1/2 LR = 36.3
See Page 34 1/2 SR = 36.3

355.45

Haul 726 yds 395'
151.3 = 287 cy.

189.30

81.1
1200.4

Sta	Grade	L	C	R
207		$\frac{-13.8}{26.0}$	-32	$\frac{0.0}{8.0}$

+15		$\frac{0.0}{8.0}$	+20	$\frac{+3.7}{9.0}$
-----	--	-------------------	-----	--------------------

+30		$\frac{+1.8}{8.5}$	+34	$\frac{+5.1}{9.4}$
-----	--	--------------------	-----	--------------------

+40		$\frac{0.0}{8.0}$	+20	$\frac{+6.2}{9.6}$
-----	--	-------------------	-----	--------------------

Boulder 4.0 x 6.0 x 6.0 = 5.3

+50	-3.18	$\frac{+1.8}{9.7}$	-04	$\frac{0.0}{8.0}$
-----	-------	--------------------	-----	-------------------

+70		$\frac{-8.8}{19.1}$	-60	$\frac{-3.4}{12.1}$
-----	--	---------------------	-----	---------------------

+85		$\frac{-17.8}{31.5}$	-88	$\frac{-5.8}{15.0}$
-----	--	----------------------	-----	---------------------

208		$\frac{-17.8}{31.5}$	-66	$\frac{-3.8}{12.7}$
-----	--	----------------------	-----	---------------------

+25		$\frac{-12.8}{24.6}$	-78	$\frac{-4.4}{13.1}$
-----	--	----------------------	-----	---------------------

208+50		$\frac{-7.8}{17.7}$	-40	$\frac{-2.0}{10.0}$
--------	--	---------------------	-----	---------------------

Areas Cub yds.
Exc Emb Exc Emb

000 10270 12004

slip 36.0
5.9 19.0

3180 000 1219.4

5. 27.6
25.3

59.20

5. 10.4
18.8

Sta 207 to 207+50
Exc. 161.3 cy.
Class slips LR 78.6 "
Balance NR 82.7 "

4240 000

Haul N. free

5. 4.6 1.2

5.3

000

984 5.2

139.1

22.254. 54.1

161.3

136.30

✓

117.6

(Signature)

28720

141.3

22146

198.5

20723

137.5

89.70

55.1

705.3

Sta	Grade	L	C	R
208+75		$\frac{-4.2}{12.8}$	-14	$\frac{0.0}{8.0}$

+85		$\frac{-4.8}{13.6}$	-07 $\frac{0.0}{3.0}$	$\frac{+1.8}{8.5}$
-----	--	---------------------	-----------------------	--------------------

208+95		$\frac{-5.0}{13.9}$	-08	$\frac{0.0}{8.0}$
--------	--	---------------------	-----	-------------------

209+10		$\frac{-5.4}{14.5}$	-25	$\frac{-1.0}{8.5}$
--------	--	---------------------	-----	--------------------

+20		$\frac{-7.0}{16.6}$	-24	$\frac{0.0}{8.0}$
-----	--	---------------------	-----	-------------------

+30		$\frac{-6.0}{15.3}$	-22 $\frac{0.0}{5.0}$	$\frac{+1.0}{8.3}$
-----	--	---------------------	-----------------------	--------------------

+40		$\frac{0.0}{8.0}$	+06	$\frac{+1.2}{8.3}$
-----	--	-------------------	-----	--------------------

+60		$\frac{+1.6}{8.4}$	+44	$\frac{+6.4}{9.6}$
-----	--	--------------------	-----	--------------------

+75		$\frac{+2.0}{8.5}$	+36	$\frac{+5.5}{9.4}$
-----	--	--------------------	-----	--------------------

Boulder 40x60x80 = 71

209+85		$\frac{0.0}{8.0}$	+08	$\frac{+2.4}{8.6}$
--------	--	-------------------	-----	--------------------

-318

Areas. (Cub. yds.
Exc Emb Exc Emb.

000 29.26

705.3

Sta 208+75 to 208+95

0.6

9.6

Exc 29 Cy. DR.

450 22.61

0.5

9.0

000 26.26

1.1

1.850.

2.9

21.5

51.15

19.5

Sta 207+40 to 207+40

000 54.02

Emb 788.2 Cy.

677.4 yds made from

0.2

18.0

Cuts and swell on

Borrowed material.

150 43.33

Balance from sides

Slip

0.4

of cut Sta 210+45

2.1

5.3

to 210+95

969 000

788.2

Class Borrow LR 110.8

See Page 35

S.

9.6

30.1

7160

S.

9.6

37.2

62.22

S.

25

7.1

14.5

16.24 000

S.

0.7

3.6

117.6

[Handwritten signature]

Sta	Grade	L	C	R
209+95		$\frac{-34}{121}$	-10	$\frac{00}{30} +1.3$ 8.3

Boulder $40 \times 40 \times 60 = 36$

210+05		$\frac{-114}{227}$	-26	$\frac{00}{8.0}$
--------	--	--------------------	-------	------------------

+25		$\frac{-10.2}{210}$	-52	$\frac{-18}{47}$
-----	--	---------------------	-------	------------------

+40		$\frac{-10.2}{210}$	-60	$\frac{-36}{124}$
-----	--	---------------------	-------	-------------------

+40 Box Culvert $2 \times 2 \frac{1}{2} \times$

+50	-3.18	$\frac{00}{80}$	00	$\frac{00}{80}$
-----	-------	-----------------	------	-----------------

+60		$\frac{+5.2}{9.3}$	$+68$	$\frac{+9.0}{10.3}$
-----	--	--------------------	-------	---------------------

Boulder $30 \times 30 \times 30 = 10$

+70		$\frac{+6.4}{9.6}$	$+80$	$\frac{+11.0}{10.8}$
-----	--	--------------------	-------	----------------------

+85		$\frac{00}{8.0}$	$+35$	$\frac{+5.0}{9.3}$
-----	--	------------------	-------	--------------------

210+95		$\frac{-7.2}{16.9}$	-20	$\frac{00}{8.0}$
--------	--	---------------------	-------	------------------

211+15		$\frac{-21.4}{36.4}$	-104	$\frac{-58}{150}$
--------	--	----------------------	--------	-------------------

Areas		Cub. yds.		
Exc.	Emb.	Exc.	Emb.	
325	1945	117.6	24	Sta 209+20 to 210+05
		04	Exc	159.4 cu.
		36	Class Slip	LR 228 "
		121.6	184	Balance SR 136.6 "
0.00	79.81	378.56		Haul 926 So free
		159.4		" 290 " "
			74.7	
	121.82			
			751	Sta 209+85 to 210+50
	148.50			1981 cu. made from cuts
			27.5	
0.00	0.00		198.1	
		229		
123.42			1.0	
		509		
151.20				Sta 210+50 to 210+95
			Exc	160.7 cu. SR
		56.0		Haul So. free
50.28	0.00			
		6.2	6.2	
		137.0		
0.00	50.10	23.7		
		160.7		
			152.8	
	362.48		191.4	
			350.4	

Sta	Grade	L	C	R
211+35		$\frac{-15.8}{28.7}$	-5.4	$\frac{0.0}{8.0}$

+55		$\frac{0.0}{8.0}$	+0.8	$\frac{+2.4}{8.6}$
-----	--	-------------------	------	--------------------

+75		$\frac{+3.2}{8.8}$	+0.2	$\frac{+8.2}{10.1}$
-----	--	--------------------	------	---------------------

+85		$\frac{+5.0}{9.3}$	+7.2	$\frac{+10.0}{10.5}$
-----	--	--------------------	------	----------------------

212	- 3/8	$\frac{+3.6}{8.9}$	+6.2	$\frac{+9.4}{10.4}$
-----	-------	--------------------	------	---------------------

+25		$\frac{+2.4}{8.6}$	+4.6	$\frac{+7.3}{9.8}$
-----	--	--------------------	------	--------------------

+40		$\frac{+1.0}{8.3}$	+3.6	$\frac{+7.0}{9.8}$
-----	--	--------------------	------	--------------------

+60		$\frac{+1.9}{8.5}$	+5.6	$\frac{+9.6}{10.4}$
-----	--	--------------------	------	---------------------

213		$\frac{+1.0}{8.3}$	+2.8	$\frac{+6.0}{9.5}$
-----	--	--------------------	------	--------------------

+20		$\frac{0.0}{8.0}$	+1.8	$\frac{+4.0}{9.0}$
-----	--	-------------------	------	--------------------

Areas. Cb/yds.
Exc Emb. Exc Emb.

000 154.39

slip 1.4
4.0

3504

381

388.5

By 210+85 to 211+05
Emb. 388.5 cu.
made from cuts

16.24

000

s. 15.3
411

94.74

s. 9.2
419

131.28

s. 12.9
67.5

111.83

s. 18.4
89.3

81.12

s. 11.3
40.5

64.58

s. 15.8
60.5

98.92

s. 15.9
112.4

52.92

s. 1.5
31.2

31.30

s. 1.21
57.2

659.4

WMA

	Sta	Grade	L	C	R
2	213	+50	$\frac{00}{8.0}$	+42	$\frac{+84}{10.1}$

+60	$\frac{-22}{10.3}$	$\frac{00}{5.0}$	+22	$\frac{+58}{9.5}$
-----	--------------------	------------------	-----	-------------------

+65	$\frac{-46}{13.3}$	-04	$\frac{00}{8.0}$
-----	--------------------	-----	------------------

Boulder 40x50x50 = 37

+80	$\frac{-12.0}{23.5}$	-54	$\frac{-28}{11.2}$
-----	----------------------	-----	--------------------

1	213	+95	$\frac{-10.0}{20.8}$	-85	$\frac{-54}{14.5}$
---	-----	-----	----------------------	-----	--------------------

- 31.8

214	+05	$\frac{-3.0}{11.5}$	-14	$\frac{00}{8.0}$
-----	-----	---------------------	-----	------------------

+10	$\frac{00}{8.0}$	+12	$\frac{+26}{8.7}$
-----	------------------	-----	-------------------

+20	$\frac{+28}{8.7}$	+58	$\frac{+78}{10.0}$
-----	-------------------	-----	--------------------

+30	$\frac{+14}{8.4}$	$\frac{+54}{6.0}$	+62	$\frac{+92}{10.3}$
-----	-------------------	-------------------	-----	--------------------

214	+40	$\frac{+1.0}{8.3}$	+34	$\frac{+74}{9.9}$
-----	-----	--------------------	-----	-------------------

Arms. Cub yds.
Exc Emb Exc Emb

7161 000 659.4
s. 8.3
20.5

39.15 220
s. 3.5
24

000 2036
s. 0.7
37

698.5
145.49 128.2 56.
826.7

203.93

000 24.15
Slip 0.8
1.2

2042 000
s. 3.9
21.7

966.3
s. 2.0
38.5

11141
s. 1.6
32.6

64.54
s. 3.1
50.3
155.7

Sta 211+35 to 213+65

Exc 826.7 cu

Class Slip LR 126.3 "

0.3 Balance RR 7004 "

Haul 54.0 m. free

21 " 2175 do. "

" 108. from 212+15

to 211= 124

Haul 319 from

46.1 212+80 to 208+15 = 1483

Total Haul 1607

97.1

42.2

Sta 213+50 to 214+10

Emb 189.3 cu

made from cuts

15

189.3

1000

Sta	Grade	L	C	R
214	+55	$\frac{+40}{90}$	+6.4	$\frac{+96}{104}$

+70	$\frac{+38}{90}$	+7.8	$\frac{+10.4}{106}$
-----	------------------	------	---------------------

Boulder $20 \times 30 \times 140 = 3.1$

+85	$\frac{00}{8.0}$	+3.0	$\frac{+4.4}{9.1}$
-----	------------------	------	--------------------

215	$\frac{-11.0}{22.1}$	-5.4	$\frac{00}{8.0}$
-----	----------------------	------	------------------

- 3.18

215	+15	$\frac{-12.0}{23.5}$	-3.6	$\frac{00}{1.0}$	$\frac{+4.5}{9.1}$
-----	-----	----------------------	------	------------------	--------------------

+20	$\frac{00}{8.0}$	+3.6	$\frac{+6.5}{9.7}$
-----	------------------	------	--------------------

Boulders $50 \times 60 \times 70 = 10.4$
 $30 \times 40 \times 60 = 10.4$

+35	$\frac{+4.8}{9.2}$	+6.6	$\frac{+8.8}{10.2}$
-----	--------------------	------	---------------------

Boulder $50 \times 70 \times 70 = 9.1$

+55	$\frac{00}{8.0}$	+2.0	$\frac{+6.2}{9.6}$
-----	------------------	------	--------------------

+75	$\frac{-7.6}{17.5}$	-2.5	$\frac{00}{8.0}$
-----	---------------------	------	------------------

+83.0 5270.39

216	$\frac{-20.8}{35.6}$	-4.6	$\frac{-0.8}{8.2}$
-----	----------------------	------	--------------------

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.

116.48

S. 155.9
6.9
69.4

133.24

S. 8.7
3.1
49.0

43.25

0.00

S. 0.6
8.0

Sta 214+80 to 215+20
Emb 84.7 cu.
222 made from cuts

0.00

119.77

S. 1.6
2.9

572

157.5

86.10

S. 1.5
6.8

5.3

84.7

57.86

0.00

S. 5.6
10.4

Sta 214+05 to 215+75
Exc.

552.8 cu.

49.0

Class Slips LR 48.6 "

118.42

S. 9.2
9.1

Balance DR 504.2 "

59.6

Haul 105. So free.
" 71. along side free

42.40

0.00

S. 3.1

" 155.7 cu.
" 140. from 214+75 to

10.5

14.5 216+20 = 203. cu.

0.00

58.48

470.7
82.1 54.
552.8

1.08.7

176.34

192.6

315.8

WED

Sta	Grade	L	C	R
216+25		$\frac{-226}{38.1}$	-6.6	$\frac{-14}{9.1}$

+50		$\frac{-184}{32.3}$	-7.0	$\frac{-30}{11.5}$
-----	--	---------------------	------	--------------------

+65		$\frac{-11.2}{22.5}$	-3.0	$\frac{00}{8.0}$
-----	--	----------------------	------	------------------

Boulder 3.0 x 3.0 x 3.0 = 1.0

+75		$\frac{00}{8.0}$	00	$\frac{+2.1}{8.5}$
-----	--	------------------	----	--------------------

+90		$\frac{+20}{8.5}$	+4.2	$\frac{+6.8}{9.7}$
-----	--	-------------------	------	--------------------

-3.06

217		$\frac{+2.2}{8.6}$	+5.2	$\frac{+8.0}{10.0}$
-----	--	--------------------	------	---------------------

+25		$\frac{+2.0}{8.5}$	+7.4	$\frac{+11.5}{10.9}$
-----	--	--------------------	------	----------------------

+50		$\frac{+5.6}{9.4}$	+10.0	$\frac{+13.6}{11.4}$
-----	--	--------------------	-------	----------------------

+65		$\frac{+3.5}{8.9}$	+8.0	$\frac{+10.8}{10.7}$
-----	--	--------------------	------	----------------------

217+75		$\frac{00}{8.0}$	+5.2	$\frac{+7.6}{9.9}$
--------	--	------------------	------	--------------------

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.

23976

315.8

216.6

22820

Sta 215+55 to 216+75

86.9 Emb. 635.0 cu.
made from cuts

0.00

8480

1.0

1.0

157

635.0

840

0.00

Slip

1.9

22.7

73.42

S.

4.6

30.1

89.16

S.

18.6

99.5

125.78

S.

18.1

141.9

180.80

S.

7.7

87.8

135.20

S.

3.8

39.3

S.

1.2

7694 0.00

21.5

500.7

wad

Sta	Grade	L	Q	R
217+90		$\frac{-5.2}{14.2}$	-2.0	$\frac{0.0}{6.0} + \frac{+0.6}{8.2}$

218+05		$\frac{-10.6}{21.6}$	-0.6	$\frac{0.0}{2.0} + \frac{+2.4}{8.6}$
--------	--	----------------------	--------	--------------------------------------

+15	- 3.06	$\frac{0.0}{8.0}$	+2.6	$\frac{+6.4}{9.6}$
-----	--------	-------------------	------	--------------------

+25		$\frac{+4.5}{9.1}$	+9.2	$\frac{+11.8}{11.0}$
-----	--	--------------------	------	----------------------

+497 526223

+50		$\frac{+3.2}{8.8}$	+6.0	$\frac{+10.2}{10.6}$
-----	--	--------------------	------	----------------------

Boulder $3^{\circ} \times 3^{\circ} \times 3^{\circ} = 3^{\circ}$
 $3^{\circ} \times 3^{\circ} \times 6^{\circ}$

+70		$\frac{+1.8}{8.5}$	+7.4	$\frac{+11.4}{10.9}$
-----	--	--------------------	------	----------------------

219	- 3.18	$\frac{+2.2}{8.6}$	+5.7	$\frac{+11.8}{11.0}$
-----	--------	--------------------	------	----------------------

Boulder $5.0 \times 8.0 \times 10.0 = 14.8$

+15		$\frac{+1.6}{8.4}$	+6.6	$\frac{+12.0}{11.0}$
-----	--	--------------------	------	----------------------

+25		$\frac{0.0}{8.0}$	+3.2	$\frac{+10.0}{10.5}$
-----	--	-------------------	------	----------------------

219+50		$\frac{-10.6}{21.6}$	00	$\frac{+3.8}{9.0}$
--------	--	----------------------	----	--------------------

Areas.		Cub. yds.		
Exc	Emb.	Exc	Emb	
060	3840	500.7	7.1	Sta 217+75 to 218+15
				Emb. 355 cu.
				made from cuts
		22	229	
720	4418	s. 1.1		
		10.3	55	
			35.5	
48468	000	s. 1.1		
		38.2		
15766		s. 29.9		
		124.8		
11180		s. 19.9		
		3.0		
		87.5		
12458		s. 53.9		
		131.0		
11186		s. 38.1		
		148		
		64.0		Sta. 216+65 to 219+85 Exc. 1405.8 cu.
				Class Slops L.R. 243.6 "
11842				Balance L.R. 1162.2 "
		s. 164		
		35.8		Haul 238 yds So. free
				" 30 along side "
6960	000			" 226 yds " "
		s. 19.2		" 755 " 218+40 " to
		39.2		11.4 220+30 = 1434 cu.
1520	37105	7.3		
		10.0	65.3	
		1247.4	76.7	

Sta	Grade	L	C	R
219+75		$\frac{-16.0}{29.0}$	$\frac{0.0}{3.0}$	$\frac{+2.6}{8.7}$
219+85		$\frac{-17.0}{30.4}$	$\frac{0.0}{-3.8}$	$\frac{0.0}{8.0}$
220		$\frac{-21.0}{35.9}$	$\frac{-3.6}{-8.6}$	$\frac{12.5}{12.5}$
+20		$\frac{-33.2}{52.6}$	$\frac{-17.8}{22.0}$	$\frac{-6.6}{-10.6}$ $\frac{16.1}{16.1}$
+50	3.18	$\frac{-31.0}{49.6}$	$\frac{-29.4}{32.0}$	$\frac{-5.8}{-13.6}$ $\frac{15.0}{15.0}$
+75		$\frac{-26.8}{43.9}$	$\frac{-25.2}{32.0}$	$\frac{-4.8}{-9.0}$ $\frac{13.4}{13.4}$
220+90		$\frac{-21.0}{36.0}$	$\frac{-19.4}{16.0}$	$\frac{-6.0}{-14.4}$ $\frac{15.3}{15.3}$
221+05		$\frac{-13.4}{25.5}$	$\frac{-7.0}{-10.6}$	$\frac{16.6}{16.6}$
+20		$\frac{-7.8}{17.7}$	$\frac{0.0}{-2.2}$	$\frac{8.0}{8.0}$
221+30		$\frac{-6.4}{15.8}$	$\frac{+13.8}{8.0}$	$\frac{+13.8}{11.5}$

Areas.		Cub. yds.	
Exc.	Emb.	Exc.	Emb.
6.50	104.00	1247.4	76.7
		5. 0.8	
		0.8	43.8
		1249.0	
0.00	132.46	156.8	5.4
		140.58	118.5

plus 243.6

294.22

273.5

444.17

625.4

681.52

518.8

439.24

261.2

501.06

221.0

294.53

Sta 219+25 to 221+45
97.2 Emb. 2255.9 cu.
made from cuts

0.00 55.57

9.8 14.4

79.35 22.40 23.0 5.1
32.8 2255.6

Sta	Grade	L	C	R
221+40		$\frac{-2.0}{10.0}$	$\frac{.00}{2.0}$	$\frac{+3.4}{10.0}$ $\frac{+14.0}{10.0}$ $\frac{+15.0}{11.8}$

+45		$\frac{.00}{8.0}$	118	$\frac{+4.4}{9.1}$
-----	--	-------------------	-----	--------------------

+49⁰ 52.52.71

+70		$\frac{+6.8}{9.7}$	+96	$\frac{+10.8}{10.7}$
-----	--	--------------------	-----	----------------------

Boulder 7.0 x 8.0 x 18.0 = 37.3

222		$\frac{+8.0}{10.0}$	+98	$\frac{+14.8}{11.7}$
-----	--	---------------------	-----	----------------------

+15		$\frac{+8.0}{10.0}$	+108	$\frac{+14.4}{11.6}$
-----	--	---------------------	------	----------------------

+45		$\frac{+6.0}{9.5}$	+92	$\frac{+14.8}{11.7}$
-----	--	--------------------	-----	----------------------

+75		$\frac{+4.8}{9.2}$	+78	$\frac{+12.0}{11.0}$
-----	--	--------------------	-----	----------------------

Boulder 3.0 x 6.0 x 10.0 = 6.7

223		$\frac{+2.0}{8.5}$	+45	$\frac{+8.3}{10.1}$
-----	--	--------------------	-----	---------------------

+15		$\frac{.00}{8.0}$	+30	$\frac{+6.6}{9.7}$
-----	--	-------------------	-----	--------------------

223+40		$\frac{-4.6}{13.6}$	$\frac{.00}{3.0}$	$\frac{+4.6}{9.2}$
--------	--	---------------------	-------------------	--------------------

Areas		Cub. yds.	
Exc.	Emb.	Exc.	Emb.
4500	500	32.8	2255.6
		slip 0.5	
		7.2	0.3
3299	000		2255.9
		s. 23.0	
		93.2	
168.32		s. 38.0	
		37.3	
		203.2	
197.53		s. 8.1	
		112.1	
206.24		s. 27.0	
		215.0	
180.72		s. 56.9	
		181.5	
145.98		s. 25.8	
		6.7	
		106.0	
83.05		s. 13.4	
		37.8	
52.95	000	s. 11.5	
		35.0	2.8
226.7	920	s. 4.5	
		11.7	21.6
		1287.9	24.4

WTO.

Sta	Grade	L	C.	R
223+65		$\begin{array}{r} -5.2 \\ 14.2 \end{array}$	$\begin{array}{r} 00 \\ -20.50 \end{array}$	$\begin{array}{r} +1.7 \\ 8.4 \end{array}$
223+90	-29.4	$\begin{array}{r} -7.8 \\ 17.7 \end{array}$	$\begin{array}{r} 00 \\ 1.0 +0.5 \end{array}$	$\begin{array}{r} +3.6 \\ 8.9 \end{array}$
		Boulder 60x60x70 = 93		
224+10		$\begin{array}{r} -7.2 \\ 16.9 \end{array}$	$\begin{array}{r} 00 \end{array}$	$\begin{array}{r} +5.4 \\ 9.4 \end{array}$
+17.9	5244.80			
+25		$\begin{array}{r} 00 \\ 8.0 \end{array}$	$\begin{array}{r} +3.0 \end{array}$	$\begin{array}{r} +5.6 \\ 9.4 \end{array}$
+35		$\begin{array}{r} +9.6 \\ 10.4 \end{array}$	$\begin{array}{r} +5.2 \end{array}$	$\begin{array}{r} +4.0 \\ 9.0 \end{array}$
+45		$\begin{array}{r} 00 \\ 8.0 \end{array}$	$\begin{array}{r} 00 \end{array}$	$\begin{array}{r} 00 \\ 8.0 \end{array}$
+60	-3.18	$\begin{array}{r} -11.4 \\ 22.7 \end{array}$	$\begin{array}{r} -8.4 \end{array}$	$\begin{array}{r} -4.0 \\ 12.5 \end{array}$
+80		$\begin{array}{r} -23.0 \\ 38.6 \end{array}$	$\begin{array}{r} -11.8 \end{array}$	$\begin{array}{r} -7.4 \\ 17.2 \end{array}$
225		$\begin{array}{r} -7.2 \\ 16.9 \end{array}$	$\begin{array}{r} -3.2 \end{array}$	$\begin{array}{r} -2.0 \\ 10.0 \end{array}$
225+05		$\begin{array}{r} -3.8 \\ 12.4 \end{array}$	$\begin{array}{r} -1.4 \end{array}$	$\begin{array}{r} 00 \\ 8.0 \end{array}$

Areas.		Cub. yds.	
Exc	Emb.	Exc	Emb.

2.55	37.40	1287.9	24.4
	S.	1.4	
		9.0	28.1

16.88	2340s.	1.0	
		9.3	
		14.2	180
			Emb. 75.2 cy. made from cut.

2160	2520		
	S.	0.8	
		19.5	47
			75.2

4850	000	S.	5.6
			Sta. 224+20 to 224+45 Exc. 1557.4
			28.4 Class Slips LR 220.8 cy.
			Balance A.R. 1336.6 "

10484		S.	3.6
			Haul 335 yds. So free
			19.5 " 13517 + alongside "
			1400.1 " 580 from 222+20 to 220+65 = 928.
000	000		157.3 " 350 " 222+85, 224+80 = 682.
			1557.4 Total Haul 1610.
			56.0

20174

236.1

was

435.62

189.2

75.24

Sta. 224+45 to 225+15
9.5 Emb. 494.2 cy.
made from cuts

000	2708	3.4	
		494.2	

Sta	Grade	L	C	R
225+15		$\frac{00}{8.0}$	+18	$\frac{+3.0}{8.8}$
+25		$\frac{+18}{8.5}$	+35	$\frac{+5.2}{9.3}$
		Boulders $\frac{5.0 \times 5.0 \times 7.0}{3.0 \times 3.0 \times 6.0} = 8.5$		
+50		$\frac{+14}{8.4}$	+48	$\frac{+7.4}{9.9}$
		Boulders $\frac{2.0 \times 4.0 \times 6.0}{3.0 \times 3.0 \times 3.0} = 2.8$		
+75		$\frac{+26}{8.7}$	+52	$\frac{+7.7}{9.9}$
+85	3.18	$\frac{00}{8.0}$	+48	$\frac{+6.8}{9.7}$
226	-	$\frac{-2.0}{10.0}$	$\frac{00}{5.0}$ +25	$\frac{+5.8}{9.5}$
+30		$\frac{-5.0}{13.9}$	00	$\frac{+2.2}{8.6}$
		Boulder $3.0 \times 3.0 \times 6.0 = 2.0$		
+40		$\frac{-6.6}{16.1}$	-18	$\frac{00}{8.0}$
+50		$\frac{-12.6}{24.3}$	-40	$\frac{-1.7}{9.5}$
226+65		$\frac{-8.6}{18.8}$	-22	$\frac{00}{8.0}$

Areas. Cub. Yds.
Exc. Emb. Exc. Emb.

27.12 000 S. 0.6
3.3

S. 2.8
16.0

59.15 S. 12.5
8.5
64.0

79.12 S. 21.9
2.8
78.1

89.56 S. 3.9
29.5

69.68 000 S. 4.5
30.8

41.33 2.00 S. 6.1
27.8

8.80 17.50 S. 6.3
2.0
1.0

000 44.79 322.4
65.7
388.1

117.65

59.58

No 225 to 226 + 40
0.4 Exc 388.1 cu.
Class slips 2 R 586 "
Balance 1 R 329.5 "

10.8 Haul 112.4 m. free
" 210.0 from 225 + 50
to 226 + 90 = 294.4 cu.

11.5

30.1

49.2

27.4

129.4

WAV

Sta	Grade	L	C	R
226+75		$\frac{-10.0}{20.8}$	-30	$\frac{-2.0}{10.0}$
226+90		$\frac{-16.8}{30.1}$	-110	$\frac{-5.0}{139}$
227+05		$\frac{-12.0}{23.5}$	-38	$\frac{0.0}{80}$
+10		$\frac{-9.2}{19.7}$	-14	$\frac{0.0}{85} + \frac{2.0}{85}$
Boulder 40x40x40 = 2.4				
+20	8.5	$\frac{-9.2}{19.7}$	-15	$\frac{0.0}{40} + \frac{2.8}{87}$
+30	-	$\frac{-3.4}{12.1}$	-17	$\frac{0.0}{8.0}$
+40		$\frac{-2.4}{10.5}$	-26	$\frac{-1.4}{91}$
+50		$\frac{-7.0}{16.6}$	-6.2	$\frac{-3.0}{110}$
+60		$\frac{-8.2}{18.3}$	$\frac{-10.0}{16.0}$	$\frac{-1.2}{88}$
227+70		$\frac{-6.4}{15.8}$	$\frac{-9.2}{12.0}$	$\frac{-6.0}{40} + \frac{0.0}{8.0}$

Areas. Cub. yds.
Exc. Emb. Exc. Emb.

88.20

129.4

112.9

318.30

116.7

0.00 101.85

0.1 14.0

300 49.49

Sta 227+05 to 227+30
to 4c. 4.8 cu. yd.

2.4
1.6 18.0

56.0 49.98

0.7 14.6

0.00 28.99

4.8

Wav

12.6

38.78

29.5

120.66

48.4

140.64

50.2

0.00 130.28

66.5

61.32

Sta grade

L C R

227+85

$\frac{-6.3}{15.7}$ $\frac{-7.0}{12.0}$ $\frac{0.0}{4.0}$ $\frac{+8.6}{8.0}$ $\frac{+10.0}{10.5}$

227+95

$\frac{-5.0}{13.9}$ $\frac{-8.2}{9.4}$ $\frac{0.0}{4.0}$ $\frac{+3.2}{8.8}$

228

$\frac{-4.5}{13.2}$ $\frac{-7.7}{8.8}$ $\frac{0.0}{4.2}$ $\frac{0.0}{8.0}$

-3.18

+20

$\frac{-2.4}{10.6}$ $\frac{-3.5}{9.0}$ $\frac{-3.8}{10.7}$

+40

$\frac{-1.1}{8.6}$ $\frac{-2.0}{6.0}$ $\frac{0.0}{0.0}$ $\frac{0.0}{8.0}$

+45° 5231.20

+46

$\frac{0.0}{7.0}$ $\frac{+1.6}{1.6}$ $\frac{+2.2}{8.6}$

RB on L

228+46 Backup=

$\frac{-3.0}{25.5}$ $\frac{-2.4}{14.0}$ $\frac{0.0}{7.0}$ $\frac{+2.2}{1.6}$

230+90 Go Ahead 21.0

$\frac{0.0}{20.0}$ $\frac{+3.4}{8.9}$

+60

20.0

$\frac{+1.0}{19.3}$ $\frac{+3.0}{11.0}$ $\frac{+3.0}{8.8}$

+70

19.0

$\frac{+2.0}{17.5}$ $\frac{4.8}{3.0}$ $\frac{+5.0}{9.3}$

228+80

17.0

$\frac{+2.0}{17.5}$ $\frac{4.8}{3.0}$ $\frac{+5.0}{9.3}$

Areas (Cub. yds.)

Exc. Emb. Exc. Emb.

 $\begin{array}{r} +100 \\ 105 \end{array}$
 279.5 109.30 5.2 613.5

6.4 35.5

6.40 82.48

Sta 227+70 to 228

Exc 120 cu. yd.

0.4

15.2 Hauled alongside free

12.0

0.00 82.05

53.5

62.33

26.5

0.00 9.15

2.4 0.7

2128 0.00

Sta 225+85 to 228+60
Emb. 750.2 cu.
made from cut.

2128 3270

15.0 56

36.72 0.00

750.2

19.3

67.72

32.0

104.91

391

107.8

Sta	Grade.	L	R
228+90	RB on L 16.0	$\frac{00}{16.0}$	$\frac{+7.2}{9.8}$
229	13.0	$\frac{-38}{18.7} \frac{00}{9.0}$	$\frac{+2.2}{8.9}$
+10	12.0	$\frac{-28}{16.2}$	$\frac{00}{8.8}$
+20	12.0	$\frac{00}{12.0}$	$\frac{+1.8}{9.6}$
+40	8.0	$\frac{-14}{10.1}$	$\frac{00}{8.3}$
+50	8.5	$\frac{00}{8.5}$	$\frac{+2.1}{8.6}$
229+68° =			
229+68°	5231.20		
+70		$\frac{+7.7}{9.9}$	$\frac{+8.5}{10.1}$
+80		$\frac{+8.0}{10.0}$	$\frac{+9.4}{10.3}$
230		$\frac{+8.8}{9.5}$	$\frac{+7.4}{9.9}$
230+30		$\frac{00}{8.0}$	$\frac{+1.7}{8.4}$

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.

106.20 0.00

107.8

25.8

0.9

33.29 76.0

8.5

4.5

1280 1680

10.6

21

Sta. 228+90 to 229+50

44.24 0.00

Emb. 11.2 cu.
made from cut.

16.9

2.5

1.50 10.13

4.7

12

24.14 0.00

11.2

6.7

was

142.40

56.4

16.97

105.0

121.67

75.0

1336

Slip 0.5

27.7

500.6

Sta	Grade	L	C	R
230+50		$\frac{+22}{8.6}$	+34	$\frac{+55}{9.4}$
+75		$\frac{+4.0}{9.0}$	+50	$\frac{+84}{10.1}$
231		$\frac{+6.6}{9.7}$	+85	$\frac{+10.5}{10.7}$
+45		$\frac{+7.0}{9.8}$	+100	$\frac{+13.2}{11.4}$
+65	+200	$\frac{+7.6}{9.9}$	+115	$\frac{+14.6}{11.7}$
+80		$\frac{+7.2}{9.8}$	+110	$\frac{+14.2}{11.6}$
232		$\frac{+5.6}{9.4}$	+90	$\frac{+12.4}{11.1}$
+25		$\frac{+1.6}{8.4}$	+42	$\frac{+8.3}{10.1}$
+35		$\frac{0.0}{8.0}$	+28	$\frac{+7.0}{9.8}$
232+50	End of Wall	$\frac{-6.4}{13.8}$	$\frac{0.0}{3.0}$ +14	$\frac{+5.2}{9.3}$

Arms

Cub Yds.

20

Exc Emb. Exc Emb.

6140

500.6

s. 3.2
735

9735

s. 3.7
1169

15510

s. 9.6
2849

18680

s. 7.9
1481

21300

s. 13.1
1156

20330

s. 9.8
1361

1000

16425

s. 15.8
1124

7845

s. 4.4
243

5292 0.00

s. 2.2
229 24

2941 1280

s. 3.6
171 364
1625.7 388

Sta	Grade	L	C	R
23 232+75	Wall 4.2	$\frac{-106}{179}$	-1.7 $\frac{00}{2.0}$	$\frac{+2.5}{8.6}$

233	Wall 4.8	$\frac{-112}{182}$	-3.0 $\frac{00}{5.0}$	$\frac{+1.6}{8.4}$
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2 +25	Wall 0.0	$\frac{-64}{158}$	-2.0 $\frac{00}{4.0}$	$\frac{+2.8}{8.7}$
-------	-------------	-------------------	-----------------------	--------------------

+50	+ 2.00	$\frac{-6.8}{164}$	$\frac{00}{2.0} + 1.0$	$\frac{+6.0}{9.5}$
-----	--------	--------------------	------------------------	--------------------

+75	$\frac{-6.0}{15.2}$	0.0	$\frac{+5.8}{9.6}$
-----	---------------------	-----	--------------------

+85	$\frac{0.0}{8.0}$	+2.0	$\frac{+4.0}{9.0}$
-----	-------------------	------	--------------------

2

2

End of Tail

R

5

✓

6

2.8

87

0

5

F

2

0

0

Tail

✓

5

F

2

0

0

1

	Sta	Grade	L	C	R
	228+46	Backup =	00		
2	230+90	Go Ahead	7.0	-24	$\frac{-30}{115}$
	+91°	0.523120			

231			$\frac{-1.0}{8.5}$	-34	$\frac{-40}{125}$
-----	--	--	--------------------	-----	-------------------

2	+15		$\frac{-16}{94}$	-28	$\frac{-74}{172}$
---	-----	--	------------------	-----	-------------------

	+35		$\frac{-44}{131}$	-74	$\frac{-134}{255}$
--	-----	--	-------------------	-----	--------------------

	+50	-3.29	$\frac{-54}{14.5}$	-92	$\frac{-136}{257}$
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	+65		$\frac{-5.0}{13.9}$	-108	$\frac{-15.2}{27.9}$
--	-----	--	---------------------	------	----------------------

2	+85		$\frac{-2.0}{10.0}$	-52	$\frac{-76}{17.5}$
---	-----	--	---------------------	-----	--------------------

	+95		$\frac{00}{8.0}$	-32	$\frac{-74}{17.2}$
--	-----	--	------------------	-----	--------------------

232			$\frac{+24}{86}$	$\frac{+3.2}{6.0}$	$\frac{00}{2.0}$	-22	$\frac{-74}{17.2}$
-----	--	--	------------------	--------------------	------------------	-----	--------------------

	+05		$\frac{+5.0}{9.5}$	$\frac{00}{2.0}$	-26	$\frac{-7.0}{16.6}$
--	-----	--	--------------------	------------------	-----	---------------------

Areas.		Cub. yds.	
Exc	Emb.	Exc	Emb.
	3270		159
	5320		338
	6874		1014
	20512		1268
	251.42		1522
	296.42		1487
	10510		317
0.00	6622	0.8	10.5
1296	4702	26	8.8
15.00	4868	3.8	89
		7.2	638.7

0000

Sta Grad

L C R

2 232+10

$$\begin{array}{r} +53 \\ 93 \end{array} \quad \begin{array}{r} +57 \\ 70 \end{array} \quad \begin{array}{r} 00 \\ 10 \end{array} \quad -36 \quad \begin{array}{r} -56 \\ 147 \end{array}$$

+15

$$\begin{array}{r} +11 \\ 83 \end{array} \quad \begin{array}{r} +20 \\ 40 \end{array} \quad 00 \quad \begin{array}{r} -46 \\ 20 \end{array} \quad \begin{array}{r} -54 \\ 145 \end{array}$$

2 +20

$$\begin{array}{r} 00 \\ 80 \end{array} \quad -51 \quad \begin{array}{r} -60 \\ 153 \end{array}$$

+30

$$\begin{array}{r} -25 \\ 107 \end{array} \quad -41 \quad \begin{array}{r} -72 \\ 169 \end{array}$$

+40

$$\begin{array}{r} -56 \\ 147 \end{array} \quad -82 \quad \begin{array}{r} -86 \\ 188 \end{array}$$

+55

$$\begin{array}{r} -38 \\ 127 \end{array} \quad -60 \quad \begin{array}{r} -148 \\ 274 \end{array}$$

2 +70

$$\begin{array}{r} -25 \\ 107 \end{array} \quad -64 \quad \begin{array}{r} -234 \\ 392 \end{array}$$

+85

$$\begin{array}{r} -21 \\ 101 \end{array} \quad -50 \quad \begin{array}{r} -130 \\ 70 \end{array} \quad \begin{array}{r} -142 \\ 265 \end{array}$$

233

$$\begin{array}{r} -10 \\ 85 \end{array} \quad -38 \quad \begin{array}{r} -126 \\ 243 \end{array}$$

233+25

$$\begin{array}{r} 00 \\ 80 \end{array} \quad -28 \quad \begin{array}{r} -58 \\ 150 \end{array}$$

-329

Areas Cub yds.
Exc Emb Exc Emb

26.30 47.86 7.2 638.9

3.4 8.8

10.50 46.85

Sta 231+95 to 232+20
Exc. 16.2 cu. DR

0.6

11.8 Hauled alongside

0.00 80.42 11.2 5.059.

16.2

316

90.53

51.4

187.05

1034

185.40

121.0

250.33

131.3

222.35

91.2

109.92

Sta 230+90 to 233+50
Gravel Emb. 1284.6
made from cut.

75.2

0.00 52.50

18.5

128.29

Sta	Grade	L	C	R
233+40		$\frac{+24}{86}$	00	$\frac{-40}{125}$

+50		$\frac{+54}{94}$	+2.0	$\frac{00}{80}$
-----	--	------------------	------	-----------------

+55		$\frac{+58}{95}$	+3.7	$\frac{+14}{84}$
-----	--	------------------	------	------------------

+75		$\frac{+76}{99}$	+5.8	$\frac{+11}{83}$
-----	--	------------------	------	------------------

+90		$\frac{+96}{104}$	+3.8	$\frac{+22}{86}$
-----	--	-------------------	------	------------------

-32.9

234

$\frac{+14.8}{11.7}$	$\frac{+13.8}{7.0}$	$\frac{+4.8}{4.0}$	$\frac{+1.8}{4.4}$	$\frac{+1.8}{8.5}$
----------------------	---------------------	--------------------	--------------------	--------------------

+05		$\frac{+6.5}{96}$	+3.4	$\frac{+2.1}{8.5}$
-----	--	-------------------	------	--------------------

Boulder $3.0 \times 7.0 \times 10.0 = 7.8$

+25		$\frac{+54}{94}$	+3.1	$\frac{+1.0}{8.3}$
-----	--	------------------	------	--------------------

+30		$\frac{+14.8}{11.7}$	$\frac{+2.2}{6.0}$	$\frac{+2.2}{8.1}$
-----	--	----------------------	--------------------	--------------------

Boulder $3.0 \times 6.0 \times 10.0 = 6.7$

234+35

$\frac{+20.0}{13.0}$	$\frac{+0.8}{7.0}$	+0.8	$\frac{00}{8.0}$
----------------------	--------------------	------	------------------

Areas. Cub yds.
Exc Emb Exc Emb.

960 14.00 1.8 1282.9

9.0 17
1284.6

39.00 0.00

9.3

6192

55.4

87.58

47.5

8330

36.2

11203

cont

16.4

65.17

7.8
43.8

5304

9.1

2333+25 to 23446 Exc. 3089 cu. yd.

4478

6.7 hauled 1804 yds m. free

6.1 " 70 yds from 233+60 to
234+75 = 80. cu.

2120 0.00

1.3
250.4
58.5 sq.
308.9

Sta Grade L C R

234+40 $\frac{00}{8.0}$ -14 $\frac{-50}{13.9}$

+50 $\frac{-18}{9.7}$ -52 $\frac{-124}{24.1}$

+65 $\frac{-44}{13.1}$ $\frac{-136}{-8.6}$ $\frac{-190}{20.0}$ $\frac{-224}{23.0}$ 37.7

+75 $\frac{-18}{9.7}$ -65 $\frac{-120}{18.0}$ $\frac{-190}{33.1}$

+90 $\frac{00}{8.0}$ -30 $\frac{-92}{19.7}$

Boulders $5.0 \times 5.0 \times 6.0 = 9.1$
 $4.0 \times 4.0 \times 6.0 = 9.1$

235 $\frac{+22}{8.6}$ $\frac{00}{20.0}$ -58 15.0

+25 $\frac{+32}{8.8}$ +07 $\frac{00}{2.0}$ $\frac{-38}{12.7}$

Boulder $3.0 \times 3.0 \times 6.0 = 2.0$

+55 $\frac{+44}{9.1}$ +22 $\frac{06}{8.0}$

Boulders $7.0 \times 9.0 \times 10.0 = 31.0$
 $3.0 \times 5.0 \times 12.0 = 31.0$
 $3.0 \times 3.0 \times 3.0 = 3.0$

+75 $\frac{+58}{9.5}$ $\frac{+42}{4.0}$ $\frac{00}{+0.5}$ $\frac{-34}{3.0}$ 12.1

236 $\frac{+0.8}{8.2}$ $\frac{00}{6.0}$ -18 $\frac{-12.0}{23.5}$

-3.29

Areas		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.
000	32.83		2.0
			31.5
	137.58		
		1224	
	303.08		
		914	
	190.43		
		73.3	
000	73.75	9.1	
		0.8	18.5
6.60	26.25		
		10.7	16.5
16.58	9.50		
		2.0	
		29.4	3.5
36.41	000		359.1
		31.0	
		25.8	1.7
33.30	6.80		
		15.8	
0.80	68.35	0.2	
		77.1	

-224
377

190
331

Sta 234435 to 235+55
Emb. 359.1 cu.
made from cut.

Sta 234490 to 236+25
Exc 34.8 164.7 cu. SR

Haul 48.8 cu. free
" 76.0 " "

124.8
39.9 50.
164.7 113.6

was

Sta Grade L C R

236+25 $\frac{00}{80}$ -38 $\frac{-114}{227}$

+45⁶ 5212.95

+50 $\frac{-10}{85}$ -44 $\frac{-113}{225}$

+70 $\frac{00}{80}$ -22 $\frac{-72}{169}$

+85 $\frac{+33}{88}$ 00 $\frac{-25}{107}$

237 -318 $\frac{+48}{92}$ +23 $\frac{00}{80}$

+25 $\frac{+88}{102}$ +50 $\frac{+28}{87}$

Boulders $\frac{3.0 \times 4.0 \times 6.0}{3.0 \times 3.0 \times 3.0} = 37$

+40 $\frac{+104}{106}$ +64 $\frac{+38}{90}$

+55 $\frac{+102}{106}$ +86 $\frac{+82}{3.0}$ +4.4
91

+75 $\frac{+88}{102}$ +60 $\frac{+25}{86}$

238 $\frac{+124}{111}$ +86 $\frac{+64}{96}$

Areas Cub yds.
Exc Emb Exc Emb.

0.00 9823

113.6

97.0

111.25

60.7

0.00 5259

24

17.0

132.0 875

No. 235+15 to 237
Emb. 2899 cu.
made from cut.

14.5

16

284.9

3898 0.00

61.4

was

936.5

3.7

59.2

119.52

74.2

147.59

92.3

1016.0

123.0

164.21

133.3

564.0

Sta Grade L @ R

$$238+25 \quad \begin{array}{r} +94 \\ 104 \end{array} \quad +69 \quad \begin{array}{r} +46 \\ 92 \end{array}$$

$$+50 \quad \begin{array}{r} +109 \\ 108 \end{array} \quad +88 \quad \begin{array}{r} +96 \\ 104 \end{array}$$

$$+60 \quad \begin{array}{r} +102 \\ 106 \end{array} \quad +94 \quad \begin{array}{r} +90 \\ 103 \end{array}$$

Boilder 7x11x16 = 456

$$+70 \quad \begin{array}{r} +52 \\ 93 \end{array} \quad +38 \quad \begin{array}{r} +38+90 \\ 60 \quad 103 \end{array}$$

$$+80 \quad \begin{array}{r} +32 \\ 88 \end{array} \quad 00 \quad \begin{array}{r} 00 \\ 80 \end{array}$$

$$+85 \quad \begin{array}{r} 00 \\ 80 \end{array} \quad -18 \quad \begin{array}{r} -34 \\ 121 \end{array}$$

$$239 \quad \begin{array}{r} -38 \\ 127 \end{array} \quad -58 \quad \begin{array}{r} -108 \\ 218 \end{array}$$

239+16[±]Back= 202+10[±]Forb 204.34

$$\begin{array}{r} -28 \\ 112 \end{array} \quad -68 \quad \begin{array}{r} -132 \\ 252 \end{array}$$

$$+20 \quad \begin{array}{r} -52 \\ 140 \end{array} \quad -74 \quad \begin{array}{r} -162 \\ 293 \end{array}$$

$$202+35 \quad \begin{array}{r} -86 \\ 188 \end{array} \quad -98 \quad \begin{array}{r} -186 \\ 326 \end{array}$$

-318

-350

Areas Cub Yds.
Exc Emb Exc Emb.

12362

564.0

138.4

17528

64.9

17503

45.6

46.9

7844

No. 236+70 to 238+85 Exp. 936.1 cu. yds.

Haul 277.5 yds m. free

16.9 " 600 from 237+75 to

202+60-190' = 1146 cu. yds.

12.80

0.00

0.8

2.7

0.00

29.99

877.5

58.6 = 1/2 cu. yds.

936.1

50.3

151.15

101.1

179.76

76.8

235.11

161.7

347.07

194.5

587.1

WCA

Sta	Grade	L	C	R
202+50		$\frac{-96}{202}$	$\frac{-106}{120}$	$\frac{-200}{345}$

+65		$\frac{-106}{216}$	-124	$\frac{-200}{345}$
-----	--	--------------------	--------	--------------------

+80		$\frac{-76}{176}$	-128	$\frac{-200}{345}$
-----	--	-------------------	--------	--------------------

203		$\frac{-54}{145}$	-88	$\frac{-158}{287}$
-----	--	-------------------	-------	--------------------

+25		$\frac{-34}{121}$	-74	$\frac{-136}{271}$
-----	--	-------------------	-------	--------------------

+40		$\frac{-20}{100}$	-60	$\frac{-150}{276}$
-----	--	-------------------	-------	--------------------

+55		$\frac{00}{80}$	-32	$\frac{-80}{180}$
-----	--	-----------------	-------	-------------------

+65		$\frac{+12}{8.3}$	$\frac{00}{40}$	$\frac{-64}{158}$
-----	--	-------------------	-----------------	-------------------

+67⁰ 5198.85 Boulder 70x60x90 = 14.0

+80		$\frac{+3.8}{9.0}$	$\frac{00}{40}$	$\frac{-20}{100}$
-----	--	--------------------	-----------------	-------------------

203+90		$\frac{+30}{8.8}$	$+14$	$\frac{00}{80}$
--------	--	-------------------	-------	-----------------

R Areas Cub yds.
Exc Emb. Exc Emb.

20.0
34.5
353.21
587.1
224.5

0
5
454.92
245.8

0
5
430.04
257.1

264.28
217.0

204.54
104.7

172.30

67.2

000 696.0

No 238+80 to 203+90
Emb. 1737.0 cu.
1286.5 yds made from

0.3 20.7 Cuts and swell on
borrowed material
Balance from borrow
off sides of cut

240 42.20

14.0
6.0 12.5 236+85 - 238+85

19.10 300*

Class Borrow O.R. 450.5
See Page 34
Haul 450.5 yds 238+30

7.9 0.4 to 203+10 - 185 = 833 cu.

23.76 000

1737.0

6.8
35.0

Sta	Grade	L	C	R
204		$\frac{+38}{9.0}$	$\frac{+1.0}{6.0}$ 00	$\frac{-1.0}{8.5}$

Boulder 4.0 x 5.0 x 5.0 = 37

+05		$\frac{+1.0}{8.3}$	00	$\frac{-2.0}{10.0}$
-----	--	--------------------	----	---------------------

+20		$\frac{00}{8.0}$	-3.0	$\frac{-8.4}{18.6}$
-----	--	------------------	------	---------------------

+30		$\frac{+1.8}{8.5}$	00	$\frac{-6.0}{3.0} \frac{-9.8}{20.5}$
-----	--	--------------------	----	--------------------------------------

+40		$\frac{+4.6}{9.2}$	$\frac{00}{+4.0} \frac{-4.2}{4.0}$	$\frac{-10.0}{20.8}$
-----	--	--------------------	------------------------------------	----------------------

+50		$\frac{+2.4}{8.6}$	00	$\frac{-7.4}{17.2}$
-----	--	--------------------	----	---------------------

+70		$\frac{+3.6}{8.9}$	$\frac{00}{+1.6} \frac{-1.0}{6.0}$	$\frac{-8.5}{8.5}$
-----	--	--------------------	------------------------------------	--------------------

+80		$\frac{+2.2}{8.6}$	$\frac{00}{+0.8} \frac{-1.0}{2.0}$	$\frac{-8.5}{8.5}$
-----	--	--------------------	------------------------------------	--------------------

204 + 95		$\frac{00}{8.0}$	$\frac{-3.7}{2.16}$	$\frac{-12.5}{12.5}$
----------	--	------------------	---------------------	----------------------

205 + 25		$\frac{-1.0}{8.5}$	-3.6	$\frac{-12.4}{24.1}$
----------	--	--------------------	------	----------------------

-3.18

Areas. Cb. Yds.
Exc. Emb. Exc. Emb.

1280 3.50 3.50 0.4
3.7
1.5 1.0

400 7.00

1.1 2.12

000 69.30

0.9 2.78

7.20 8.110

9.2 24.7

4280 52.38

9.7 14.5

96.0 25.90

13.3 9.8

26.32 0.50

Ma 203 + v. to 204 + 95
Exp. 126.5 Cy. OR

7.3 0.5

13.04 2.50

Haul 39.1 Cy. do. for
" 45. " m. and
alongside for

2.4 8.8

000 29.35

84.1
42.454

126.5

75.0

105.58

117.0

300.7

was

4.
"

Sta	Grade.	L	C	R
205+50		$\frac{00}{8.0}$	-38	$\frac{-194}{33.7}$

Boulder $30 \times 30 \times 30 = 1.0$

+75		$\frac{-1.8}{9.7}$	-40	$\frac{-222}{37.5}$
-----	--	--------------------	-----	---------------------

+85		$\frac{-14}{9.1}$	-38	$\frac{-156}{20.0}$ $\frac{-19.0}{33.1}$
-----	--	-------------------	-----	--

205+95		$\frac{-4.0}{12.5}$	-5.0	$\frac{-7.4}{17.2}$
--------	--	---------------------	------	---------------------

206+10	-3.18	$\frac{00}{8.0}$	00	$\frac{00}{8.0}$
--------	-------	------------------	----	------------------

+25		$\frac{+6.4}{9.6}$	+6.4	$\frac{+3.2}{8.8}$
-----	--	--------------------	------	--------------------

+40		$\frac{+10.6}{10.7}$	+8.8	$\frac{+6.0}{9.5}$
-----	--	----------------------	------	--------------------

+60		$\frac{+10.8}{10.7}$	+8.0	$\frac{+6.2}{9.6}$
-----	--	----------------------	------	--------------------

+75		$\frac{+12.6}{11.2}$	+9.6	$\frac{+6.0}{9.5}$
-----	--	----------------------	------	--------------------

206+85		$\frac{+13.4}{11.4}$	+9.0	$\frac{+5.0}{9.3}$
--------	--	----------------------	------	--------------------

Boulders $80 \times 100 \times 100$
 $20 \times 60 \times 80 = 39.0$
 $30 \times 30 \times 90$
 $30 \times 30 \times 50$

Areas		Cub. Yds	
Exc	Emb.	Exc	Emb.

147.13

300.7

1.0

150.7

178.40

69.1

194.87

St. 203+90 to 206+10

Emb. 609.4 cu.

57.2 made from cuts

114.15

31.7

609.4

000

000

Slip

7.3

27.0

97.28

S.

5.8

70.1

155.28

S.

8.6

112.8

149.20

S.

8.1

89.7

173.76

S.

7.8

63.1

S.

24.3

39.0

94.9

166.75

559.5

W.M.

Sta had L C R

207 $\frac{+11.8}{11.0}$ +10.0 $\frac{+6.2}{9.6}$

+10 $\frac{+12.0}{11.0}$ +9.2 $\frac{+7.2}{9.8}$

+25 $\frac{+9.4}{10.4}$ +6.8 $\frac{+5.6}{9.4}$

+50 $\frac{+9.0}{10.3}$ +4.0 $\frac{+2.4}{8.6}$

Boulders $\frac{5.0 \times 4.0 \times 10.0}{2.0 \times 5.0 \times 8.0} = 10.3$

+65 $\frac{+6.6}{9.6}$ +3.2 $\frac{+2.0}{8.5}$

+80 $\frac{+4.0}{9.0}$ +1.6 $\frac{+1.0}{8.3}$

208 $\frac{+7.2}{9.8}$ +3.8 $\frac{+2.8}{8.7}$

+00³ 5185.08

+10 $\frac{+6.8}{9.7}$ +3.8 $\frac{+3.0}{8.8}$

+30 $\frac{+2.2}{8.6}$ +1.6 $\frac{0.0}{8.0}$

208+40 $\frac{0.0}{8.0}$ -0.8 $\frac{-3.0}{11.5}$

-318

-350

Areas Cub. yds.
Exc Emb Exc Emb.

175.00

559.5
S. 23.1
64.3

172.48

S. 27.4
83.3

127.32

S. 29.0
97.5

83.40

S. 17.1
10.3
40.7

63.36

S. 14.2
27.0

33.84

S. 46.7

93.65

S.

47.2 M. 206+10 to 208+40 Exp. 1314.4 cu

Class Slips "LR 116.7 "

6.7 Balance Cut DR 1197.7 "

34.5

92.85

S.

7.1
42.6

Haul 235.4 yds. So. free.

" 186. " " " "

" 200 from 206+15 to

205+25 = 300.

" 160 from 207+20

to 208+95 = 980.

Total Haul 1280. cu.

2208 0.00

S.

0.1

27

23

0.00 18.30

1181.0

133.4

1314.4

57.8

60.1

was

Sta	Grade	L	C	R
208+60		$\frac{-34}{12.1}$	-52	$\frac{-10.8}{21.8}$

+75		$\frac{-9.0}{19.4}$	-94	$\frac{-21.6}{24.0} \quad \frac{-22.8}{38.4}$
-----	--	---------------------	-----	---

+90		$\frac{-5.2}{14.2}$	-134	$\frac{-24.0}{24.0} \quad \frac{-26.6}{43.6}$
-----	--	---------------------	------	---

209		$\frac{-4.2}{12.8}$	-74	$\frac{-22.4}{20.0} \quad \frac{-26.6}{43.6}$
-----	--	---------------------	-----	---

+20	350 —	$\frac{-7.2}{16.9}$	-106	$\frac{-13.4}{25.5}$
-----	----------	---------------------	------	----------------------

+40		$\frac{-4.6}{13.3}$	-70	$\frac{-8.8}{19.1}$
-----	--	---------------------	-----	---------------------

+60		$\frac{0.0}{8.0}$	-10	$\frac{-3.6}{12.4}$
-----	--	-------------------	-----	---------------------

+70		$\frac{+2.8}{8.7}$	+13	$\frac{0.0}{8.0}$
-----	--	--------------------	-----	-------------------

Boulders $\frac{3.0 \times 7.0 \times 7.0}{6.0 \times 4.0 \times 13.0} = 2.59$
 $\frac{3.0 \times 8.0 \times 10.0}{}$

210		$\frac{+9.2}{10.3}$	+56	$\frac{+3.1}{8.8}$
-----	--	---------------------	-----	--------------------

210+30		$\frac{+5.2}{9.3}$	+36	$\frac{+1.7}{8.4}$
--------	--	--------------------	-----	--------------------

Boulder $2.0 \times 4.0 \times 4.0 = 12$

Areas Cub. yds.
Exc. Emb. Exc. Emb.

137.84

60.1

165.1

456.40

285.4

571.24

189.4

451.48

277.1

296.82

169.3

160.30

No. 208+30 to 209+70
Emb. 1217.0 cu.
67.8 made from cuts

0.00

22.80

27

28

22.06

0.00 slip

15.4

25.9

69.3

1217.0

102.68

slip

13.7

No. 209+60 to 210+45 Exc. 258.5 cu.
Class slips L.R. 291 "
Balance S.R. 2294 "

90.1

Haul 212 yds. So. free.

59.44

1.2

" 228 " M. "

16.5

234.8

23.72

125.4

258.5

Sta	Grade	L	C	R
210	+45	$\frac{00}{8.0}$	00	$\frac{00}{8.0}$
	+60	$\frac{-4.4}{13.6}$	-7.4	$\frac{-11.6}{24.6}$
	+75	$\frac{-9.0}{20.5}$	-11.4	$\frac{-17.8}{33.7}$
211		$\frac{00}{8.0}$	-3.5	$\frac{-7.4}{18.1}$

-3.50

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.

ooo

ooo

19660

40274

ooo

71.57

546 No. 210445 to 211
Emb 4407 cy.
3924 cy. made from
cuts and swell on
166.5 borrowed material
Balance borrowed
from Dixon L 210445
Class Borrow L R 483 cy
2196 See Page 36
440.7

WAD

Section 4

Borrow Pit on Left Sta. 200+80 to 201+75

Center Line of Borrow Pit = Center of Line

Stations	L.	C.	Areas (Cu. Yds)
200+80		$\frac{00}{8.0}$	0.00
+85	$\frac{+5.4}{21.6}$	$\frac{00}{16.0}$ $\frac{00}{8.0}$	21.60
201	$\frac{+9.8}{24.8}$	$\frac{00}{16.0}$ $\frac{+2.6}{8.7}$	57.61
+10	$\frac{+9.0}{20.0}$	$\frac{+4.0}{9.0}$ $\frac{00}{9.0}$	24.00
+25	$\frac{+12.0}{21.2}$	$\frac{+6.2}{9.6}$ $\frac{00}{9.0}$	37.32
+35	$\frac{+12.6}{20.4}$	$\frac{+7.2}{9.8}$ $\frac{00}{9.0}$	39.60
+50	$\frac{+11.8}{16.0}$	$\frac{+9.0}{10.3}$ $\frac{00}{9.8}$	33.05
+75	$\frac{+15.6}{16.8}$	$\frac{+12.8}{11.2}$ $\frac{00}{8.8}$	37.80
			<u>32.8</u> 122.6

Figures in ring show original surface

Haul 50.0 cu. opposite free

Haul 726 yds. from 205+85 to 207+15 - 395 = 287
Borrow Pit on L+R Sta. 210+45 to 210+95

210+45		$\frac{00}{8.0}$	0.00
+50	$\frac{00}{8.0}$	$\frac{00}{8.0}$ $\frac{00}{8.0}$ $\frac{+1.0}{13.4}$ $\frac{+4.0}{19.4}$	5.10
+60	$\frac{+4.4}{19.0}$	$\frac{+5.2}{9.3}$ $\frac{00}{10.0}$ $\frac{00}{12.4}$ $\frac{+9.0}{10.3}$ $\frac{+12.6}{23.0}$	121.87
+70	$\frac{+5.2}{18.6}$	$\frac{+6.4}{9.6}$ $\frac{00}{10.0}$ $\frac{00}{11.6}$ $\frac{+11.0}{10.8}$ $\frac{+14.8}{22.0}$	117.88
+85		$\frac{00}{8.0}$ $\frac{00}{11.2}$ $\frac{+5.0}{9.3}$ $\frac{+6.0}{15.6}$	24.70
+95		$\frac{00}{8.0}$	0.00
			<u>3.0</u> 110.8

Borrow Pit in Extra width of Cut 236+85 to 238+85

Line	Stations	L	C	R	Areas	Cub. Yds
6 Yds	236+85	$\frac{00}{80}$			0.00	1.4
13	237	$\frac{+56}{126}$ $\frac{+48}{92}$	$\frac{00}{80}$	$\frac{00}{80}$	7.68	5.7
220	+10	$\frac{+88}{174}$ $\frac{+64}{96}$	$\frac{00}{80}$	$\frac{00}{80}$	23.04	8.8
15.1	+25	$\frac{+88}{102}$	$\frac{00}{86}$	$\frac{00}{90}$ $\frac{+28}{87}$ $\frac{+20}{120}$	8.54	6.4
15.1	+40	$\frac{+106}{118}$ $\frac{+104}{106}$	$\frac{00}{80}$	$\frac{00}{80}$ $\frac{+12}{88}$ $\frac{+38}{90}$ $\frac{+26}{148}$	14.56	7.9
17.0	+55	$\frac{+106}{120}$ $\frac{+102}{106}$	$\frac{00}{80}$	$\frac{00}{80}$ $\frac{+44}{91}$ $\frac{+26}{120}$	13.99	26.3
14.2	+75	$\frac{+130}{210}$ $\frac{+88}{102}$	$\frac{00}{92}$	$\frac{00}{100}$ $\frac{+20}{86}$ $\frac{+10}{126}$	57.15	26.5
20.2	+90	$\frac{+118}{150}$ $\frac{+102}{106}$	$\frac{00}{86}$	$\frac{00}{110}$ $\frac{+41}{90}$ $\frac{+28}{136}$	38.18	18.0
32.8	238	$\frac{+100}{210}$ $\frac{+100}{150}$ $\frac{+124}{111}$	$\frac{00}{80}$	$\frac{00}{80}$ $\frac{+64}{96}$ $\frac{+20}{100}$ $\frac{+40}{140}$	58.85	29.4
2.26	+10	$\frac{+152}{250}$ $\frac{+112}{108}$	$\frac{00}{90}$	$\frac{00}{76}$ $\frac{+16}{94}$ $\frac{+20}{110}$ $\frac{+36}{170}$	100.20	69.6
	+25	$\frac{+144}{310}$ $\frac{+154}{236}$ $\frac{+94}{104}$	$\frac{00}{80}$	$\frac{00}{76}$ $\frac{+16}{92}$ $\frac{+16}{96}$ $\frac{+34}{140}$	150.40	86.9
95	+40	$\frac{+130}{310}$ $\frac{+80}{270}$ $\frac{+100}{105}$	$\frac{00}{140}$	$\frac{00}{80}$ $\frac{+66}{97}$ $\frac{+60}{120}$	162.35	65.9
0.3	+50	$\frac{+140}{320}$ $\frac{+146}{250}$ $\frac{+109}{108}$	$\frac{00}{160}$	$\frac{00}{80}$	193.40	57.4
23.5	+60	$\frac{+114}{260}$ $\frac{+102}{106}$	$\frac{00}{140}$	$\frac{00}{86}$ $\frac{+90}{103}$ $\frac{+88}{108}$	116.30	30.9
44.4	+70	$\frac{+88}{196}$ $\frac{+52}{93}$	$\frac{00}{100}$	$\frac{00}{100}$ $\frac{+90}{103}$ $\frac{+90}{122}$	50.79	9.4
39.6	+85		$\frac{00}{80}$	$\frac{00}{80}$	0.00	450.5

Haul 450.5 cu. 238+30 to 203+10 - 185 = 833 cu.

Borrow Pit on Let. 210+15 to 210+45 Ford

Center Line of Borrow Pit = Center of Line 232+

Stations	L.	C.	Areas (Sq. Yds)	232+
210+15	$\frac{+7.6}{12.0}$	$\frac{+7.2}{9.8}$	$\frac{.00}{9.8}$	14.40
+30	$\frac{+8.2}{24.8}$	$\frac{+5.2}{9.3}$	$\frac{.00}{20.0}$	28.3
+35	$\frac{+5.2}{23.6}$	$\frac{+3.4}{8.9}$	$\frac{.00}{20.0}$	13.2
+45		$\frac{.00}{8.0}$	$\frac{.00}{8.0}$	6.8
			0.00	48.3 210-

Clearing

Stations	Width	Sq Ft.
203-206 Tail	70'	21000 ✓
208-222+50 Backup	70'	101500 ✓
222+50-224+50	50'	10000 ✓
224+50-228	110'	38500 ✓
228-234	75'	45000 ✓
234-238 Go Ahead	65'	26000 ✓
202-207	60'	30000 ✓
207-211	75'	30000 ✓

302000 = 6²³ Acres

15 Ford

Slope Wall

ne

232+50-232+65

$$1 \times 3.5 \times 15 = 19 \checkmark \text{ cy.}$$

6 yds

232+65-233+23

$$2 \times 3.5 \times 58 = 215 \checkmark$$

$$234 \checkmark$$

28.3

13.2

Box Culverts

6.8

48.3

210+40 2 x 2 $\frac{1}{2}$ x 24

797 H. BM ✓

res

Section 4

Page	Acres	Excavation — Cub. Yds			
		Clearing	Total Cut	Earth	Lo Rock & Rock
1					
2			✓ 968.5		✓ 968.5
3					
4			✓ 722.1		✓ 78.7 643.4
5			✓ 161.3		✓ 78.6 82.7
6			✓ 2.9		✓ 2.9
7			✓ 159.4		✓ 228 136.6
7			✓ 160.7		✓ 160.7
8					
9			✓ 826.7		✓ 126.3 700.4
10			✓ 552.8		✓ 48.6 504.2
11					
12			✓ 1405.8		✓ 243.6 1162.2
13					
15			✓ 1557.4		✓ 220.8 1336.6
15					
16			✓ 388.1		✓ 58.6 329.5
17			✓ 4.8		✓ 4.8
18			✓ 12.0		✓ 12.0
19					
21			✓ 1892.3		✓ 619.7 1272.6
23			✓ 16.2		✓ 16.2
24			✓ 308.9		✓ 308.9
25			✓ 164.7		✓ 164.7
26					
27			✓ 936.1		✓ 936.1
28					
29			✓ 126.5		✓ 126.5
30					
31			✓ 1314.4		✓ 116.7 1197.7
32			✓ 258.5		✓ 29.1 229.4
33					
36		693			
		693	11940.1	1643.5	10296.6

Cub. Yds
Total
Ban

Summary

37

Cub. yds.	Cub. yds.	Borrow	Cub. yds.	Cub. yds.	Lumber in Elverts	Cu. yds.
Total in Banks	Made from Cuts	Le Rock	S. Rock	Haul	FTBM	Slope Wall
✓ 242.5	✓ 242.5					
✓ 929.0	✓ 879.0	✓ 25.0	✓ 25.0	✓ 1634		
✓ 1219.4	✓ 1146.8	✓ 36.3	✓ 36.3	✓ 287		
				✓ 345		
✓ 788.2	✓ 677.4	✓ 110.8				
✓ 198.1	✓ 198.1					
✓ 388.5	✓ 388.5					
✓ 189.3	✓ 189.3			✓ 1607		
✓ 84.7	✓ 84.7			✓ 203		
✓ 635.0	✓ 635.0					
✓ 35.5	✓ 35.5			✓ 1434		
✓ 2255.9	✓ 2255.9			✓ 1610		
✓ 75.2	✓ 75.2			✓ 294		
✓ 494.2	✓ 494.2					
✓ 750.2	✓ 750.2					
✓ 112	✓ 112					
✓ 217.3	✓ 217.3			✓ 6009		
✓ 1284.6	✓ 1284.6			✓ 80		
✓ 359.1	✓ 359.1					
✓ 289.9	✓ 289.9					
✓ 1737.0	✓ 1286.5			✓ 1140		
				✓ 833		
✓ 609.4	✓ 609.4					
✓ 1217.0	✓ 1217.0			✓ 1280		
✓ 440.7	✓ 392.4	✓ 48.3				
✓ 14451.9	✓ 13719.7	✓ 220.4	✓ 511.8	✓ 16756	✓ 797	✓ 23.4

SECTION 4 - COST

CLEARING	6 ⁹³ ACRES @ \$35.00	242.55
EXCAVATION EARTH	CU. YDS.	
" L. ROCK	1643.5	0.45
" S. ROCK	10296.6	0.90
BORROW EARTH		
" L. ROCK	220.4	0.40
" S. ROCK	511.8	0.90
HAUL 100 ft.	16756.	0.015
LUMBER FT. BM.	797.	\$12.00M
SLOPEWALL	234 CU. YDS.	2.00
		11105.54

✓ *[Signature]*

✓
242.55/
739.57

0266.24

✓
88.16✓
460.62✓
251.34✓
9.56✓
4680✓
1105.54✓ ~~1105.54~~✓ ~~1105.54~~

Section 5

Sta	Grade	L	C	R
211		$\frac{00}{8.0}$	-35	$\frac{-74}{181}$
+15		$\frac{+5.5}{9.4}$	+33	$\frac{00}{8.0}$
+20		$\frac{+6.6}{9.7}$	+42	$\frac{+18}{8.5}$
+40		$\frac{+7.8}{10.0}$	+51	$\frac{+28}{8.7}$
+41 ⁵	0.5173.14			
+75		$\frac{+7.0}{9.8}$	+48	$\frac{+26}{8.7}$
212		$\frac{+8.7}{10.2}$	+66	$\frac{+4.8}{9.2}$
+25		$\frac{+11.8}{11.0}$	+95	$\frac{+7.0}{9.8}$
+50		$\frac{+11.5}{10.9}$	+84	$\frac{+5.9}{9.5}$
+75		$\frac{+10.5}{10.6}$	+79	$\frac{+5.4}{9.4}$
213		$\frac{+13.7}{11.4}$	+117	$\frac{+8.7}{10.2}$

-360

-318

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.

0.00

71.57

Slip

2.9

9.4

13.2

13.7 ✓

50.71

0.00

S.

3.6

11.3

71.82

S.

18.9

60.0

Sta 211 to 211+15 Emb. ^{13.2}

made from cut

90.08

S.

35.7

112.1

82.80

S.

33.5

93.0

118.02

S.

48.5

135.2

174.00

S.

47.2

152.4

155.28

S.

33.8

137.9

142.60

S.

45.5

166.0

215.96

S.

57.3

166.6

1370.8

Sta	Grade	L.	C.	R.
213+25		$\frac{+8.8}{10.2}$	+7.8	$\frac{+7.6}{9.9}$

+50		$\frac{+6.4}{9.6}$	+5.4	$\frac{+3.5}{8.9}$
-----	--	--------------------	------	--------------------

+75		$\frac{0.0}{8.0}$	+0.2	$\frac{+0.5}{8.1}$
-----	--	-------------------	------	--------------------

+85	-31.8	$\frac{-1.2}{8.8}$	-1.0	$\frac{0.0}{8.0}$
-----	-------	--------------------	------	-------------------

214		$\frac{-0.5}{7.7}$	$\frac{-2.5}{6.0}$	$\frac{-1.4}{9.1}$
-----	--	--------------------	--------------------	--------------------

+25		$\frac{-0.8}{8.2}$	-3.4	$\frac{-3.4}{12.1}$
-----	--	--------------------	------	---------------------

+50		$\frac{0.0}{8.0}$	-3.6	$\frac{-6.2}{16.3}$
-----	--	-------------------	------	---------------------

+85		$\frac{-1.6}{9.4}$	-3.6	$\frac{-5.8}{15.7}$
-----	--	--------------------	------	---------------------

+87³⁰ 5162.14

215		$\frac{-1.8}{9.7}$	-4.0	$\frac{-5.8}{15.7}$
-----	--	--------------------	------	---------------------

+20	-35.0	$\frac{-1.3}{9.0}$	-3.2	$\frac{-5.2}{14.8}$
-----	-------	--------------------	------	---------------------

Areas.

Cub. yds.

Exc	Emb.	Exc	Emb.
		Sta 211 to 213+85 Exc. 16809	
143.99		1370.8 Class material in regular	
		S. 37.7 sections 1/3 L.R. 398.54	
		108.1 Ships " 372.3 "	
		Balance cut including	
89.55		Sub. S. S.R. 910.1	
		7.7	
		43.1 Haul 284.1 So. free	
		" 83.7 No. "	
36.1	00	" 1200 cy from 212+70 to	
		216+70 = Total Haul 4800 cy.	
		04 1.5	
0.00	126.0	1567.8	
		113.1 50.01	
		1680.9 12.8	
		✓	
336.5		38.4	
		49.21	
		53.1	
65.44		88.5	
71.08		41.2	
77.40		51.2	
60.83		18.1	
		304.8	

Wm

Sta	Grade	L	C	R
215+35		$\frac{-0.4}{7.6}$	-0.4	$\frac{0.0}{8.0}$

Boulder 2.0 x 6.0 x 6.0

+50		$\frac{-1.8}{9.7}$	-1.8	$\frac{-1.0}{8.5}$
-----	--	--------------------	--------	--------------------

+75		$\frac{-2.2}{10.3}$	-4.4	$\frac{-4.9}{14.3}$
-----	--	---------------------	--------	---------------------

216		$\frac{-2.2}{10.3}$	-3.2	$\frac{-6.0}{16.0}$
-----	--	---------------------	--------	---------------------

+45	-3.50	$\frac{-1.0}{8.5}$	-3.1	$\frac{-6.0}{16.0}$
-----	---------	--------------------	--------	---------------------

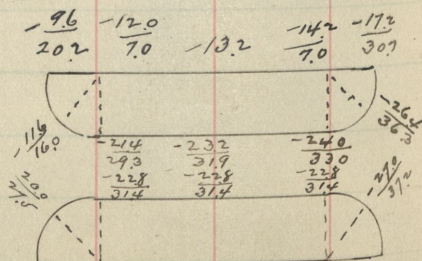
+75		$\frac{-4.0}{13.0}$	-5.6	$\frac{-10.6}{22.9}$
-----	--	---------------------	--------	----------------------

217		$\frac{-9.0}{20.5}$	-11.5	$\frac{-19.2}{35.8}$
-----	--	---------------------	---------	----------------------

217+06 H/B

+38 Toe

+67 Toe



217+90 H/B

$\frac{-11.0}{22.1}$	$\frac{-14.0}{7.0}$	-15.4	$\frac{-16.6}{7.0}$	$\frac{-21.4}{36.4}$
----------------------	---------------------	---------	---------------------	----------------------

Areas. Cub yds.
Exc. Emb. Exc. Emb.

4.52

304.8

2.7

Sta 215+35 Ege

26.18

2.758

2.7 cy. OR

48.7

789.7

. 693

70.78

111.0

62.48

Sta 213+75 to

119.0 217+38 Emb 1314.2

151.62

made from cut

265.8

422.43

94.9

431.57

292.3

1314.2

394.8

5646.2

79.0

473.8

173
30.7-26.4
36.32.7
31.42.14
36.4

Sta	Grade	L	C	R
217+94	515.41	$\frac{-10.7}{23.0}$	-14.0	$\frac{-18.2}{34.3}$
218+10		$\frac{-3.0}{11.5}$	-5.5	$\frac{-7.0}{17.5}$
+25		$\frac{0.0}{8.0}$	0.0	$\frac{0.0}{8.0}$
+50		$\frac{+17.3}{9.8}$	+6.6	$\frac{+6.0}{9.5}$
+75	605-	$\frac{+12.6}{11.2}$	+10.7	$\frac{+9.0}{10.3}$
219		$\frac{+16.3}{12.1}$	+13.8	$\frac{+11.4}{10.9}$
+20		$\frac{+17.6}{12.4}$	+16.2	$\frac{+12.0}{11.0}$
+35		$\frac{+16.0}{12.0}$	+14.0	$\frac{+10.6}{10.7}$
+50		$\frac{+12.8}{11.2}$	+8.8	$\frac{+6.4}{9.6}$
219+75		$\frac{+14.6}{11.7}$	+12.4	$\frac{+8.4}{10.1}$

Areas. Cub. Yds.
Exc. Emb. Exc. Emb.

502.25

473.8 Sta 217+67 to 218+25
Emb 688.5 cu.
182.8 made from cut n.

114.75

31.9

688.5

000

000

slip 3.1
54.1

✓

116.89

s. 9.7
147.4

201.43

s. 25.5
218.0

269.50

s. 32.5
213.9

307.94

s. 18.5
159.2

265.30

s. 13.0
120.4

168.32

s. 22.5
183.1

227.16

s. 18.6
168.3

1408.1

(scribble)

Sta	Grade	L	C	R
220		$\frac{+10.2}{10.6}$	+7.4	$\frac{+5.4}{9.4}$

+25		$\frac{+6.4}{9.6}$	+3.5	$\frac{+2.0}{8.5}$
-----	--	--------------------	------	--------------------

+50		$\frac{+7.4}{9.9}$	+4.1	$\frac{+1.0}{8.3}$
-----	--	--------------------	------	--------------------

+65		$\frac{+9.0}{10.3}$	+5.0	$\frac{+4.2}{9.1}$
-----	--	---------------------	------	--------------------

+85		$\frac{+9.0}{10.3}$	+4.4	$\frac{+0.5}{8.1}$
-----	--	---------------------	------	--------------------

-3.03

221		$\frac{+10.5}{10.6}$	+6.5	$\frac{+3.9}{9.0}$
-----	--	----------------------	------	--------------------

+25		$\frac{+14.6}{11.7}$	+11.2	$\frac{+5.8}{9.5}$
-----	--	----------------------	-------	--------------------

+50		$\frac{+10.0}{10.5}$	+7.0	$\frac{+3.4}{8.9}$
-----	--	----------------------	------	--------------------

+60		$\frac{+9.5}{10.4}$	+6.6	$\frac{+5.4}{9.4}$
-----	--	---------------------	------	--------------------

221+75		$\frac{+3.2}{8.8}$	+2.4	$\frac{0.0}{8.0}$
--------	--	--------------------	------	-------------------

Areas. Cub. Yds
Exc. Emb. Exc. Emb.

13640

1408.1
S. 8.2
93.4

6528

S. 1.7
63.0

7091

S. 3.3
47.1

9880

S. 3.0
65.7

7848

S. 3.4 2390.3 cy.
55.5 Class Ships L.R. = 236.5
Balance S.R. = 21538

12130

Haul 459 cy. Do free
S. 8.2 " 2522 " No. "
149.0 " 140. from 219 to 217+90 = 154
" 1370. " 219, 180 to 222+75 = 4041
Total Haul 419.5

20032

S. 10.7
149.0

12150

S. 4.6
45.6

12494

S. 3.6
43.9

3296

S. 1.1
6.2
2174.3

WAO

Sta	Grade	L	@	R
2 221	+85	$\frac{+0.4}{8.1}$	$\frac{00}{6.0}$	$\frac{-5.0}{14.5}$

Boulder $3.0 \times 4.0 \times 4.0 = 1.8$

222		$\frac{00}{8.0}$	-4.0	$\frac{-12.8}{26.2}$
-----	--	------------------	------	----------------------

+25		$\frac{-6.6}{16.9}$	-9.4	$\frac{-15.8}{30.7}$
-----	--	---------------------	------	----------------------

+50		$\frac{-8.5}{19.7}$	-13.8	$\frac{18.6}{34.9}$
-----	--	---------------------	-------	---------------------

+75		$\frac{-13.0 - 16.0}{24.9}$	$\frac{20.0}{20.0}$	$\frac{-15.6}{40.0}$
-----	--	-----------------------------	---------------------	----------------------

-3.03

2 223		$\frac{-14.0}{28.0}$	$\frac{-19.6}{16.0}$	$\frac{-3.00}{20.6}$
-------	--	----------------------	----------------------	----------------------

+25		$\frac{-9.6}{21.4}$	-15.8	$\frac{-28.0}{49.0}$
-----	--	---------------------	-------	----------------------

+50		$\frac{-7.2}{17.5}$	-13.0	$\frac{-26.0}{46.0}$
-----	--	---------------------	-------	----------------------

+80		$\frac{-5.6}{15.4}$	-11.6	$\frac{-27.0}{47.5}$
-----	--	---------------------	-------	----------------------

+81⁵ 5133.73

2 224		$\frac{-4.2}{13.3}$	$\frac{-5.6}{8.0}$	$\frac{-19.2}{35.8}$
-------	--	---------------------	--------------------	----------------------

Areas Cub. yds.
Exc Emb Exc Emb

0.40 2570 21743 3.2

1.8
0.1 387

45.0 added for dip taken out after cut was

0.00 113.20

remeasured between

2221.2

218+75 + 219+50

169.1 + 0.854

192.3

2390.3

30212

3582

47159

5237

65970

Sta 221+75 to 224+50

Emb. 39664 cu.

776.1 made from cuts

101680

789.0

1000

68776

5633

52898

5599

47892

2558

21184

132.1

4192.3

Sta	Grade	L	C	R
224+25		$\frac{-2.0}{10.0}$	-4.0	$\frac{-5.0}{14.0}$

+30		$\frac{0.0}{8.0}$	-3.2	$\frac{-4.6}{13.9}$
-----	--	-------------------	------	---------------------

+50		$\frac{+2.7}{8.8}$	+1.5	$\frac{0.0}{8.0}$
-----	--	--------------------	------	-------------------

+75		$\frac{+8.1}{10.0}$	+5.0	$\frac{+2.0}{8.5}$
-----	--	---------------------	------	--------------------

+90		$\frac{+9.4}{10.4}$	+6.0	$\frac{+3.0}{8.8}$
-----	--	---------------------	------	--------------------

225		$\frac{+12.0}{11.0}$	+10.8	$\frac{+9.2}{10.3}$
-----	--	----------------------	-------	---------------------

+15		$\frac{+17.4}{12.3}$	+19.2	$\frac{+17.8}{12.5}$
-----	--	----------------------	-------	----------------------

Boulders $\frac{4.0 \times 4.0 \times 4.0}{4.0 \times 6.0 \times 16.0} = 18.6$
 $\frac{3.0 \times 3.0 \times 6.0}{}$

+25		$\frac{+19.8}{13.0}$	+21.2	$\frac{+22.0}{13.5}$
-----	--	----------------------	-------	----------------------

+50		$\frac{+20.6}{13.2}$	+17.0	$\frac{+15.0}{11.8}$
-----	--	----------------------	-------	----------------------

Boulders $\frac{2.0 \times 4.0 \times 14.0}{4.0 \times 6.0 \times 6.0} = 9.5$

225+75		$\frac{+20.5}{13.2}$	+16.5	$\frac{+13.3}{11.3}$
--------	--	----------------------	-------	----------------------

Areas		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.
	7350		4192.3
			115

000 5114

58 126

2340 000

slip

30
51.0

4216.4

250.0 deduct for Boulders.

3966.4

8665

s.

8.5
53.8

10720

s.

121
56.9

19982

s.

27.3
160.7

37888

s.

212
186
153.1

44810

s.

73.3
371.7

35490

s.

66.1
9.5
320.5

33733

s.

58
324.8
1746.7

2000

Sta	Grade	L		C.		R	
2	226	$\frac{+220}{13.5}$	$+17.4$			$\frac{+14.5}{11.6}$	
	+20	$\frac{+21.4}{13.4}$	$+20.0$			$\frac{+16.2}{12.1}$	
	+35	$\frac{+19.0}{12.8}$	$+15.8$			$\frac{+10.0}{10.5}$	
	+50	$\frac{+14.2}{11.6}$	$+10.6$			$\frac{+9.6}{10.4}$	
		Boulders $\frac{4.0 \times 4.0 \times 6.0}{2.0 \times 4.0 \times 7.0} = 5.6$					
	+75	$\frac{+14.0}{11.5}$	$+12.4$			$\frac{+9.6}{10.4}$	
	+85	$\frac{+13.2}{11.3}$	$+12.0$			$\frac{+9.4}{10.4}$	
		Boulders $\frac{6.0 \times 8.0 \times 10.0}{3.0 \times 4.0 \times 6.0} = 24.9$ $\frac{4.0 \times 5.0 \times 6.0}{}$					
227		$\frac{+9.7}{10.4}$	$+7.8$			$\frac{+6.2}{9.6}$	
	+25	$\frac{+8.4}{10.1}$	$+5.0$			$\frac{+2.4}{8.6}$	
	+45	$\frac{+5.2}{9.3}$	$+2.0$			$\frac{0.0}{8.0}$	
227	+70	$\frac{0.0}{8.0}$	-2.4			$\frac{-6.0}{16.0}$	

- 3.50

R	Areas		Cub. yds.	
	Exc.	Emb.	Exc.	Emb.
4.5 16	36437		1746.7 33 2851	
16.2 21	40540		8.5 196.0	
20 05	30007		30.0 147.2	
16 4	21180		41.4 56 2046	
16 4	23018		No 224 + 30 X 227 + 70 69 Exc. 3227.2 @.y. 835 Class Slip to R 341.3 " Balance to R 2885.9 "	
16 4	22060		8.1 249 Haul 175.6 @.y. 20. free	
249	14160		1006 " 1640 from 225 to 223 + 50 = 3280 " 827 " 226 + 75 to 232 + 50 = 4755 " 434 " 226 + 20 " 238 + 15 = 5185 144 = Total Haul 13220 107.2	
	8995		7.6 47.4	
	3810	000	08 11.8 152	
000	49.80		3076.6 150.6 = 0855. 3227.2 36.3 51.5	

Rep 32413

WSD

	Sta	Grade	L	C	R
2	228		$\frac{+5.0}{9.3}$	$\frac{00}{+04 \ 1.0}$	$\frac{+52}{14.8}$

+25			$\frac{+3.8}{9.0}$	$\frac{00}{+3.3 \ 1.0}$	$\frac{-52}{14.8}$
-----	--	--	--------------------	-------------------------	--------------------

+40			$\frac{+4.6}{9.2}$	$+1.3$	$\frac{00}{8.0}$
-----	--	--	--------------------	--------	------------------

Boulders $\frac{3.0 \times 4.0 \times 6.0}{3.0 \times 3.0 \times 4.0} = 4.0$

+65			$\frac{+6.8}{9.7}$	$+4.0$	$\frac{+25}{8.6}$
-----	--	--	--------------------	--------	-------------------

+75			$\frac{+7.2}{9.8}$	$+5.6$	$\frac{+44}{9.1}$
-----	--	--	--------------------	--------	-------------------

+87⁰⁰ 5116.04

2	229		$\frac{+5.8}{9.5}$	$+4.1$	$\frac{+26}{8.7}$
---	-----	--	--------------------	--------	-------------------

+10			$\frac{+5.2}{9.3}$	$+1.6$	$\frac{00}{8.0}$
-----	--	--	--------------------	--------	------------------

+35			$\frac{+3.4}{8.9}$	$+1.7$	$\frac{00}{5.0} \frac{-2.0}{10.0}$
-----	--	--	--------------------	--------	------------------------------------

Boulders $\frac{4.0 \times 4.0 \times 6.0}{2.0 \times 3.0 \times 6.0} = 4.0$

+70			$\frac{+5.1}{9.3}$	00	$\frac{-4.0}{13.0}$
-----	--	--	--------------------	----	---------------------

2	229+95	0 5112.56	$\frac{+5.4}{9.4}$	00	$\frac{-2.0}{17.5}$
---	--------	-----------	--------------------	----	---------------------

Areas.		Curb yds.	
Exc	Emb.	Exc	Emb.
52 48		1.4	
2206	1560	82	51.5
		27.2	10.8
52 48	36.65	7.80	10.8
		18.4	1.5
		63.8	
0 0	19.58	000	3.4
			4.0
			47.8
5	7380		
		5.	11.2
			32.1
4 1	9932		
		5.	5.9
			78.8
	7091		
		5.	2.1
			19.4
	3464	000	
		5.	1.5
			27.8
2.0 0.0	2544	2.00	1.9
4.9			4.9
			29.7
2 0	2040	14.00	
		5.	12.3
			19.4
			17.8
	2160	24.50	9.1
			29.6
			75
		396.1	36.2

Sta 227+45 to 228+40
Emb. 63.8 cu.
made from cuts

1000

06 Sta 229+10 to 230+20
Emb. 36.2 cu.
made from cut
opposite

Δ	Grade	L	C	R
2	230+20	$\frac{+58}{9.5}$	+22	$\frac{00}{8.0}$
	+40	$\frac{+90}{10.3}$	+5.0	$\frac{+17}{8.4}$
	+70	$\frac{+10.0}{10.5}$	$\frac{+42}{8.0} + 13$	$\frac{00}{8.0}$
	231	$\frac{+46}{9.2}$	+0.6	$\frac{00}{1.0} \frac{-32}{11.8}$
	+30	$\frac{+33}{8.8}$	+0.6	$\frac{00}{2.0} \frac{-62}{13.3}$
	+50	$\frac{+36}{8.9}$	$\frac{00}{2.0} - 16$	$\frac{-11.8}{24.7}$
	+75	$\frac{00}{8.0}$	-36	$\frac{-15.8}{30.7}$
	231 +85	$\frac{-1.0}{8.5}$	-5.2	$\frac{-20.4}{37.6}$
	232+10	$\frac{-4.0}{13.0}$	-9.0	$\frac{-25.4}{45.1}$
	+35	$\frac{-2.8}{11.2}$	-76	$\frac{-24.8}{44.2}$

76.2 -

	Areas		Cub. Yds.	
	Exc	Emb	Exc	Emb
0 50	4245	0.00	396.1	Start 27+70 X 231+75 Exp. 756.4 cu.
2 4	8955		489	Class Ships Ls R 557 "
				Balance Ls. R 700.7 "
				Haul 100 yds. So on side free
			67.8	" 84 " 70 "
				" 400 from 227+20 to 232+05 = 1140
	3245	0.00		
			299	3.5
32 18	2146	960		
			211	138
.2 53	1644	1550		
		S. 4.4		
		10.1	289	
8 7	1080	6266		
		S. 2.5		
		3.3	869	
8 7	0.00	12496	584.1	
			172.3	SG.
			756.4	
				59.2
6 0		19476		
			258.8	
		36435		
			3109	
8 1		30712	214.8	
			976.8	

	Sta	Grade	L	C	R
2	232+60		$\frac{00}{8.0}$	-4.4	$\frac{-18.2}{34.3}$

232+85	$\frac{+4.0}{9.0}$	$\frac{00}{2.0}$	-1.0	$\frac{-13.2}{26.8}$
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233+10	$\frac{+5.2}{9.3}$	$\frac{00}{10.5}$	$\frac{-7.6}{18.4}$
--------	--------------------	-------------------	---------------------

Boulders $\frac{2.0 \times 5.0 \times 5.0}{3.0 \times 4.0 \times 5.0} = 4.1$

+35	$\frac{+7.6}{9.9}$	$\frac{00}{2.5}$	$\frac{-9.0}{20.5}$
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Boulders $\frac{2.0 \times 4.0 \times 4.0}{3.0 \times 4.0 \times 8.0} = 4.7$

+60	$\frac{+9.1}{10.3}$	$\frac{00}{3.8}$	$\frac{-1.5}{9.3}$
-----	---------------------	------------------	--------------------

- 294

234	$\frac{+7.7}{9.9}$	$\frac{00}{2.0}$	$\frac{-1.2}{8.8}$
-----	--------------------	------------------	--------------------

+25	$\frac{+8.8}{10.2}$	$\frac{00}{3.3}$	$\frac{-5.3}{14.8}$
-----	---------------------	------------------	---------------------

+50	$\frac{+7.0}{9.8}$	$\frac{00}{2.0}$	$\frac{-6.6}{16.9}$
-----	--------------------	------------------	---------------------

+75	$\frac{+7.5}{9.9}$	$\frac{00}{6.0}$	$\frac{-9.0}{20.5}$
-----	--------------------	------------------	---------------------

235	$\frac{+4.2}{9.1}$	$\frac{00}{1.0}$	$\frac{-12.0}{23.5}$
+248	05096.99		

Areas.		Cub yds.	
Exc.	Emb.	Exc	Emb.
100	156.76	2.5 37	9768 1006
1200	6060	6.0 16.0	386
2338	22805.	2.9 41 32.3	189
46.53	18.005.	0.7 4.7 52.7	8.7
67.37	0.75	84.5	1.0
46.70	0.60	103 49.5	2.7
6028	5.20	200 43.0	10.0
3272	16.50	21.8 34.9	9.7
42.72	4.50	8.6 26.6	24.3
14.70	48.13	0.9 14.4	57.3
		440.1	1248.6

Wm

	Sta	Grade	L	C	R
2	235	+25	$\frac{+55}{94}$	$\frac{00}{20}$	$\frac{-17.0}{1.0}$ 304

+50	$\frac{+37}{9.0}$	$\frac{00}{3.0}$	-25	$\frac{-17.0}{30.4}$
-----	-------------------	------------------	-----	----------------------

+70	$\frac{+46}{9.2}$	$\frac{00}{5.0}$	-22	$\frac{-28.0}{46.5}$
-----	-------------------	------------------	-----	----------------------

235	+90	$\frac{+46}{9.2}$	$\frac{00}{4.0}$	-20	$\frac{-29.0}{46.9}$
-----	-----	-------------------	------------------	-----	----------------------

236	+05	$\frac{+12}{8.3}$	$\frac{00}{6.0}$	-55	$\frac{-29.0}{46.9}$
-----	-----	-------------------	------------------	-----	----------------------

+20	$\frac{+3.1}{8.8}$	$\frac{00}{3.0}$	-10	$\frac{-27.0}{44.2}$
-----	--------------------	------------------	-----	----------------------

+32	$\frac{+50}{9.3}$	$\frac{00}{3.51}$	Boulders	$\frac{4.0 \times 7.0 \times 1.0}{6.0 \times 6.0 \times 1.4.0} = 34.5$
-----	-------------------	-------------------	----------	--

+50	$\frac{+5.2}{9.3}$	$\frac{00}{5.0}$	-130	$\frac{-3.50}{24.9}$
-----	--------------------	------------------	------	----------------------

+85	$\frac{+5.3}{9.3}$	$\frac{00}{10.4}$	$\frac{00}{1.0}$	$\frac{-7.0}{16.6}$
-----	--------------------	-------------------	------------------	---------------------

237	$\frac{+5.6}{9.4}$	$\frac{00}{1.5}$	$\frac{00}{2.0}$	$\frac{-7.0}{16.6}$
-----	--------------------	------------------	------------------	---------------------

+35	$\frac{+6.6}{9.7}$	$\frac{00}{3.0}$	$\frac{00}{4.0}$	$\frac{-4.0}{13.0}$
-----	--------------------	------------------	------------------	---------------------

Areas.		Cub. Yds.	
Exc	Emb.	Exc.	Emb.
16.50	75.70	440.1	1248.6
		119	819
9.25	101.25		
		6.0	944
6.90	153.55		
		6.0	113.3
9.20	152.40		
		29	110.9
1.20	246.98		
		2.5	101.4
7.75	118.10		
		34.5	
		15.9	90.9
20.80	45.50		
		28.5	43.1
23.26	21.00		
		15.0	10.7
30.95	17.50		
		50.5	15.2
46.95	6.00		
		17.2	0.8
		631.0	1911.2

Wm
 Sta 232+60 to 237+80
 Exc. 856.6 cu.
 Class Slip Lo R 73.7 "
 Balance Lo R 782.9 "
 Haul 600 Yds on side
 and so. free
 Haul 88.5 Yds no.
 free

Sta	Grade	L	C	R
2 237+45		$\frac{+6.0}{9.5}$	+2.5	$\frac{0.0}{8.0}$

+58° 05089.43

+60

$\frac{+5.6}{9.4}$

$\frac{-5.2}{14.2}$

Boulders $\frac{4.0 \times 8.0 \times 8.0}{3.0 \times 3.0 \times 9.0} = 16.5$
 $\frac{3.0 \times 4.0 \times 9.0}{}$

+80

$\frac{0.0}{8.0}$

-36

$\frac{-23.0}{38.6}$

Boulders $\frac{3.0 \times 4.0 \times 13.0}{4.0 \times 6.0 \times 8.0} = 16.4$
 $\frac{4.0 \times 4.0 \times 6.0}{}$

238

1229-10

$\frac{0.0}{8.0}$

-5.2

$\frac{-18.0}{31.8}$

+30

$\frac{-2.2}{10.3}$

-76

$\frac{-24.0}{40.0}$

-294

+50

$\frac{-3.6}{12.4}$

-80

$\frac{-13.4}{25.5}$

+75

$\frac{-1.3}{9.0}$

-46

$\frac{-15.0}{27.6}$

239

$\frac{-5.2}{14.2}$

-10.0

$\frac{-16.0}{29.0}$

+15

$\frac{-6.4}{15.8}$

-11.7

$\frac{-31.0}{49.8}$

+178° 5084.73

239+40

$\frac{-2.0}{10.0}$

-5.4

$\frac{-21.0}{36.0}$

Area. Cub. yds.
Exc. Emb. Exc. Emb.

4588 0.00 631.0 Sta 230+70 to 237+35
Emb. 19112 cu.
34 made from cuts
19.0

2240 1820
16.5
5.6 67.6

0.00 16438

164 122.5

688.5

166.48 168.1 54.

856.6

2496

28286

1829

21110

163.1

14123

1997

29020

223.5

51466

333.0

204.70

158.6

1703.9

Pipe 737

Wm

Sta	Grade	L	C	R
239+60		$\frac{-2.0}{10.0}$	-53	$\frac{-24.0}{40.0}$

Boulder $3.0 \times 3.0 \times 6.0 = 2.0$

+65

-3.22

$\frac{5.0}{8.0}$

-46

$\frac{-18.0}{31.8}$

239+90

$\frac{+18}{8.5}$

$\frac{0.0}{5.0}$

-19

$\frac{-16.8}{30.1}$

240+05

$\frac{+2.0}{8.5}$

$\frac{0.0}{5.0}$

-30

$\frac{-20.0}{34.5}$

+25

$\frac{0.0}{8.0}$

-35

$\frac{-18.0}{31.8}$

+25⁸ 0508125

Boulders

$3.0 \times 5.0 \times 12.0$
 $4.0 \times 6.0 \times 10.0 = 19.5$
 $3.0 \times 6.0 \times 6.0$

+40

$\frac{+14}{8.4}$

$\frac{0.0}{4.0}$

-27

$\frac{-15.0}{27.6}$

+75

-3.50

$\frac{+6.6}{9.7}$

+12 $\frac{0.0}{3.0}$

$\frac{-11.0}{22.1}$

241

$\frac{+5.6}{9.4}$

+12 $\frac{0.0}{2.0}$

$\frac{-5.0}{13.9}$

+10

$\frac{+8.4}{10.1}$

+26

$\frac{0.0}{8.0}$

241+25

+362 0507739

$\frac{+14.4}{11.6}$

+82

$\frac{+3.5}{8.9}$

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.
	223.50		1703.9
		2.0	35.0
0.00	154.54		
		0.8	114.2
270	92.15		
		16	61.5
300	129.25		
		0.7	97.0
0.00	132.65		
		19.5	
		0.5	63.3
280	95.16		
		23.8	75.9
340.2	22.00		
		29.3	16.0
292.4	12.50		
		0.3	
		16.0	1.5
57.13	0.00		2168.3
		5	8.2
			59.1
155.65		5	104.8
			134.1
			400.7

No. 237+45 to 241+10
Emb. 2168.3 cu.
1620.8 yds made
from cuts, balance
Borrowed from
Pits on L 236+00 -
237+30 + 240

Class Borrow A.R. 547.5
See Page 66

1062

Sta	Grade	L	C	R
241	+50	$\frac{+14.2}{11.6}$	+6.4	$\frac{+3.0}{8.8}$
	+75	$\frac{+15.4}{11.8}$	+7.2	$\frac{+2.6}{8.6}$
242		$\frac{+15.2}{11.8}$	+6.8	$\frac{0.0}{8.0}$
		Boulders $\frac{4.0 \times 6.0 \times 10.0}{2.0 \times 5.0 \times 7.0} = 11.5$		
	+25	$\frac{+9.6}{10.4}$	$\frac{0.0}{+2.8}$	$\frac{-6.0}{15.3}$
	+50	$\frac{+8.2}{10.1}$	$\frac{0.0}{+0.7}$	$\frac{-11.0}{22.1}$
	+75	$\frac{+7.0}{9.8}$	$\frac{0.0}{+1.4}$	$\frac{-14.0}{26.3}$
243		$\frac{+3.6}{9.4}$	0.0	$\frac{-15.0}{27.6}$
	+10	$\frac{+16.0}{12.0}$	$\frac{0.0}{2.0}$	$\frac{-14.0}{26.3}$
	+25	$\frac{+1.2}{8.3}$	$\frac{0.0}{3.0}$	$\frac{-12.0}{23.5}$
243	+50	$\frac{0.0}{8.0}$	-4.3	$\frac{-14.0}{26.3}$

3/8

Aras. Cob. yds.
Exc Emb Exc Emb

134.08

400.7
S. 159.9
129.0

144.64

S. 97.8
126.3

128.12

0.00 S. 16.7
11.5
86.4

28

58.56

9.00

S. 20.6
114.1

19.4

36.69

33.00

S. 34.7
33.6

31.5

36.26

35.00

S. 26.1
27.1

40.5

22.40

52.50

S. 6.6
13.0

23.5 Balance L.R. 904.2

48.00

74.47

S. 9.3
14.2

39.0

3.00

65.85

S. 1.7
0.9

87.3

0.00

122.75

1260.2
130.756. 461
1390.9 290.1

Sta 239+65 to 243+50

Exc. 1390.9 @ 1

Class Slip L.R. 486.7

241+70 to 239+40 = 2139.

Total Haul

Haul 168.20 free

" 162.2 " "

" 930. from

241+70 to 239+40 = 2139.

Total Haul

Sta	Grade	L	C	R
243+60		$\frac{-1.0}{8.5}$	-44	$\frac{-13.6}{287}$
+75		$\frac{-26}{109}$	-50	$\frac{-120}{235}$
+90		$\frac{-68}{164}$	-128	$\frac{-260}{428}$
244		$\frac{-88}{191}$	-160	$\frac{-314}{300}$ $\frac{-330}{535}$
+25	-318	$\frac{-150}{276}$	-204	$\frac{-246}{180}$ $\frac{-400}{350}$ $\frac{-460}{712}$
+40		$\frac{00}{8.0}$	-30	$\frac{-24.3}{405}$
+50		$\frac{+38}{9.0}$	+18	$\frac{00}{8.0}$
+75		$\frac{+52}{9.3}$	+36	$\frac{+1.0}{8.3}$
245		$\frac{+106}{107}$	+62	$\frac{+3.0}{8.8}$
+15		$\frac{+124}{111}$	+112	$\frac{+6.5}{9.6}$

Areas. Cub. Yds.
Exc. Emb Exc. Emb.

126.34 290.1
73.2

137.10
175.2

493.68
255.1

330
3.5
884.05
1042.7

460
71.2
1368.12

Start 42 to 244+50
cut 22796 cu.
4238 made from cuts

0.00 15780
slip 1.8
3.8 19.5

30.50 0.00
5. 10.7
40.2

56.48
5. 6.7
79.3

114.85
5. 16.4
85.1

191.52
5. 8.4
65.1
317.5

over

Sta	Grade	L	C	R
245+25		$\frac{+104}{10.6}$	$+9.5$	$\frac{+58}{9.5}$
+35	- 3.18	$\frac{+102}{10.6}$	$+6.0$	$\frac{+2.0}{8.5}$
+55		$\frac{+130}{11.3}$	$+6.6$	$\frac{+42}{9.1}$
+75		$\frac{+121.0}{13.3}$	$+14.8$	$\frac{+12.0}{11.0}$
+88	5063.02	Boulders $\frac{3.0 \times 3.0 \times 4.0}{3.0 \times 4.0 \times 7.0} = .58$ $\frac{2.0 \times 3.0 \times 6.0}{}$		
245+90		$\frac{+24.0}{14.0}$	$+17.0$	$\frac{+13.0}{11.3}$
246+10		$\frac{+30.6}{15.6}$	$\frac{+29.0}{10.0}$	$\frac{+10.7}{10.7}$
+20	- 3.34	$\frac{+43.6}{19.0}$	$\frac{43.0}{10.0}$	$\frac{+12.0}{11.0}$
+30		$\frac{+42.0}{18.5}$	$\frac{+33.4}{7.0}$	$\frac{+11.0}{10.8}$
+45		$\frac{+21.5}{13.4}$	$+18.2$	$\frac{+14.4}{7.0}$
246+50		$\frac{+18.0}{12.5}$	$+11.4$	$\frac{+7.4}{9.9}$

Areas.		Cub. yds.	
Exc.	Emb.	Exc.	Emb.

160.28		317.5	
	s.	7.2	
		49.3	

106.10		32.7	
	s.	89.7	

136.12		73.8	
	s.	165.9	

311.82		66.4	
	s.	58	
		187.5	

363.05		40.6	
	s.	290.6	

was

421.60			
		188.6	

596.65			
		209.7	

535.93		9.1	
	s.	245.6	

348.46		28.6	
	s.	53.5	

229.28		67.5	
	s.	150.1	
		227.97	

82
101

Sta	Grade	L	C	R
2	246 + 75 Back =	+9.0		+22
2	246 + 70 Ford 5060.12	10.3	+53	8.6

	+85	+7.3 9.8	+26	00 8.0
--	-----	-------------	-----	-----------

247		+6.6 9.7	+2.3	00 8.0
-----	--	-------------	------	-----------

	+25	+5.7 9.4	+3.1	+1.3 8.3
--	-----	-------------	------	-------------

2	+40	+1.8 8.5	+0.8	00 8.0
---	-----	-------------	------	-----------

2	+55	+2.0 8.5	+1.0	+0.2 8.1
---	-----	-------------	------	-------------

	+75	+3.2 8.8	+1.0	00 8.0
--	-----	-------------	------	-----------

+79° 5056.64

	+90	+7.0 9.8	+5.7	+4.0 9.0
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248		+2.2 8.6	00	00 8.0
-----	--	-------------	----	-----------

2	+05	00 8.0	-6.0	-12.0 23.5
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Areas. Cub. Yds.
Exc Emb Exc Emb

9489

rr 79.7
s. 19.0
40.9

5234

s. 35.2
27.5

4676

s. 13.0
47.3

5544

s. 0.4
19.2

1380

86

17.10

s. 1.3
14.2

2120

Slip 446.2

244440 to 248+05
4.5 Exp. 2736.5 eq.
33.0 Class Slip. L.R 446.2 "
Balance L.R 2290.3 "

97.58

s. 2.7 Haul 317 Yds. L.R. free
19.7 " 1399 " " "
" 1800 from 246+05 to 244+05 = 3600
" 310 " 246+70 to 248+30 = 496
= Total Haul 4096 eq.

880

800

s. 0.2
0.5 126

0.00

136.50

2566.9
169.6 = 0855.
2736.5 243.5
256.1

Sta	Grade	L	Q.	R
2	248+25	$\frac{-11.0}{22.1}$	-11.7	$\frac{-27.0}{44.2}$

+40	$\frac{-2.8}{11.2}$	-5.0	$\frac{-17.0}{30.4}$
-----	---------------------	------	----------------------

+65	$\frac{-5.0}{13.9}$	-5.8	$\frac{-8.7}{18.9}$
-----	---------------------	------	---------------------

+75	$\frac{-4.8}{13.6}$	-8.6	$\frac{-9.0}{19.4}$
-----	---------------------	------	---------------------

249	$\frac{-9.0}{19.4}$	-9.8	$\frac{-15.0}{27.6}$
-----	---------------------	------	----------------------

+10	$\frac{-11.3}{22.6}$	-12.4	$\frac{-15.0}{27.6}$
-----	----------------------	-------	----------------------

+25	$\frac{-7.4}{17.2}$	-8.6	$\frac{-11.4}{22.7}$
-----	---------------------	------	----------------------

+49⁹ 5051.62

+50	$\frac{-3.0}{11.5}$	-5.0	$\frac{-7.0}{16.6}$
-----	---------------------	------	---------------------

+70	$\frac{0.0}{8.0}$	-2.4	$\frac{-4.0}{12.5}$
-----	-------------------	------	---------------------

Boulders $\frac{20 \times 4.0 \times 8.0}{5.0 \times 5.0 \times 5.0} = 7.9$

249+85	$\frac{+1.0}{8.3}$	+0.4	$\frac{0.0}{2.0} - \frac{1.0}{8.5}$
--------	--------------------	------	-------------------------------------

-294

-32.3

Areas.		Cub. Yds.	
Exc	Emb	Exc	Emb.
	520.86		256.1
			192.8
	173.30		146.5
	143.07		61.7
	190.20		233.5
	314.30		132.9
	403.29		178.0
	237.37		158.6
	105.25		53.3
0.00	38.60 _{slip}	0.5 7.9 1.1	11.4
6.06	2.50 ^s	2.8	0.1
		13.4	1424.9

Sta 248 to 249+90
Emb 1424.9 cu.
made from cuts

Sta	Grade	L	C	R
2	249+90	$\frac{+4.0}{9.0}$	+1.0	$\frac{0.0}{8.0}$
	250+10	$\frac{+5.4}{9.4}$	+2.8	$\frac{+0.8}{8.2}$
	+15	$\frac{+4.6}{9.2}$	+2.2	$\frac{0.0}{8.0}$
	+30	$\frac{0.0}{8.0}$	-1.4	$\frac{-12.0}{23.5}$
	+45	$\frac{-3.4}{12.1}$	-5.8	$\frac{-9.2}{19.7}$
	+70	$\frac{0.0}{8.0}$	-1.2	$\frac{-2.8}{11.2}$
	+80	$\frac{+2.2}{8.6}$	+1.6	$\frac{0.0}{8.0}$
	250+90	$\frac{+5.2}{9.3}$	+3.6	$\frac{+2.2}{8.6}$
	251+30	$\frac{+9.8}{10.5}$	+7.6	$\frac{+5.8}{9.5}$
	+50	$\frac{+10.8}{10.7}$	+8.2	$\frac{+5.6}{9.4}$

-3.23

Areas. Cub./ds.
Exc Emb. Exc Emb.

24.50 0.00 13.4
slip 4.9
27.4

49.44

S.

1.5

Sta 249+70 to 250+30
88.6 cu.

Exc.

8.0 Areas Slips To R 10.1

Balance To R 78.5

37.32 0.00

S.

2.1

Hauled to free

6.9

11.8

64.2

0.00

64.05

24.4 56.

88.6

55.6

136.32

Sta 250+15 to 250+80
Emb 143.0 cu.
made from cuts

73.0

0.00

21.32

2.7

2.6

143.0

22.08

0.00

slip

1.0

15.5

61.82

S.

23.6

148.3

138.40

S.

17.6

106.1

148.01

S.

37.4

245.9

598.1

Sta	Grade	L	P	R
252		$\frac{+7.0}{10.3}$	+6.4	$\frac{+4.8}{9.2}$

+50		$\frac{+7.4}{9.9}$	+6.0	$\frac{+4.2}{9.1}$
-----	--	--------------------	------	--------------------

+70		$\frac{+6.2}{9.7}$	+4.8	$\frac{+2.5}{8.6}$
-----	--	--------------------	------	--------------------

252+85		$\frac{+4.8}{9.2}$	+2.5	$\frac{+0.8}{8.2}$
--------	--	--------------------	------	--------------------

253+10	- 3.23	$\frac{+3.6}{8.9}$	+1.8	$\frac{0.0}{8.0}$
--------	--------	--------------------	------	-------------------

+25		$\frac{+1.6}{8.4}$	0.0	$\frac{-1.0}{8.5}$
-----	--	--------------------	-----	--------------------

+40		$\frac{+1.6}{8.4}$	0.0	$\frac{-1.0}{8.5}$
-----	--	--------------------	-----	--------------------

+65		$\frac{+0.8}{8.2}$	$\frac{0.0}{2.0}$ -1.0	$\frac{-3.0}{11.5}$
-----	--	--------------------	------------------------	---------------------

+80		$\frac{+2.0}{8.5}$	+0.5 $\frac{0.0}{3.0}$	$\frac{-2.0}{10.0}$
-----	--	--------------------	------------------------	---------------------

254		$\frac{+1.0}{8.2}$	$\frac{0.0}{2.0}$ -1.0	$\frac{-2.8}{11.2}$
-----	--	--------------------	------------------------	---------------------

Areas Cub Yds.
Exc Emb. Exc Emb.

117.60

598.1

s. 33.6

204.7

103.40

s. 10.8

67.4

78.72

s. 3.6

34.1

44.15

s. 4.6

34.1

29.61 0.00

s. 1.3

10.0

0.6

6.40 3.50

s. 0.1

3.5

19

6.40 3.50

s. 3.4

4.1

9.6 Sta. 250+70 to 254+10

Elev. 1201.2 ay.

Class Ship's Ls R 146.5

Balance Ls. R. 1054.7

2.40 17.25

s. 5.9

3.7

5.9

10.88 4.00

s. 3.6

5.1

Haul 120.4 yds Ls. free

" 4.1 " " "

" 7.58 from 251+80

7.5 to 249+05 = 208.5

Haul 110 from 252+80

9.1 to 254+25 = 160.

Total Haul 2245.0 ay

3.00 16.40

0.44

1032.1

169.1

1201.2

s.c. 34.6

Sta	Grade	L	C	R
2 254+10		$\frac{00}{8.0}$	-20	$\frac{-36}{124}$

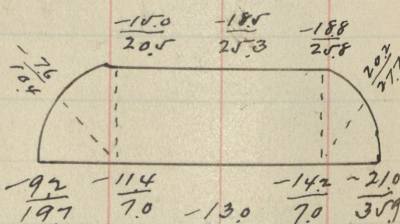
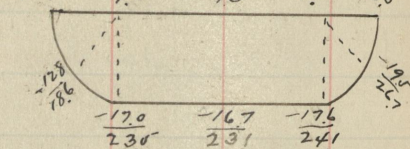
+18		$\frac{-3.0}{11.5}$	-44	$\frac{-5.6}{14.7}$
-----	--	---------------------	-----	---------------------

+24 H/B		$\frac{6.0}{15.3}$	$\frac{-7.2}{7.0}$	-76	$\frac{-7.7}{7.0}$	$\frac{-7.0}{16.6}$
---------	--	--------------------	--------------------	-----	--------------------	---------------------

+47 Toe

+55 Toe

- 3.23



+80 H/B

255

$\frac{-7.0}{16.6}$	-10.0	$\frac{-15.6}{28.5}$
---------------------	-------	----------------------

+25

$\frac{-2.2}{10.3}$	-5.0	$\frac{-7.2}{16.9}$
---------------------	------	---------------------

+55

$\frac{00}{8.0}$	00	$\frac{00}{8.0}$
------------------	----	------------------

255+60

$\frac{+3.0}{8.8}$	+14	$\frac{00}{8.0}$
--------------------	-----	------------------

Areas

Cur. yds.

Exc

Emb

Exc

Emb

000

3300

346

17.9

87.74

Sta 253+10 to 254+47
Emb 1830 cu.

289 made from cuts

172.19

1016

183.0

208.1

458.18

282.5

Sta 254+55 to 255+55
Emb 7344 cu.
made from cuts

304.60

187.7

100.90

56.1

000

000

734.4

Slip 0.1

2.2

23.76

57.6
55.7
65.6

Sta Grade

L

C.

R

2 255+85

$$\begin{array}{r} +7.0 \\ 9.8 \end{array}$$

+5.6

$$\begin{array}{r} +4.0 \\ 9.0 \end{array}$$

256

$$\begin{array}{r} +7.0 \\ 9.8 \end{array}$$

+6.0

$$\begin{array}{r} +4.8 \\ 9.2 \end{array}$$

Boulders $\begin{array}{l} 3.0 \times 3.0 \times 6.0 \\ 4.0 \times 4.0 \times 5.0 \end{array} = 5$

+30

$$\begin{array}{r} +1.2 \\ 8.3 \end{array}$$

+1.0

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

+30

Box Culvert 1x25x

+50

$$\begin{array}{r} +4.0 \\ 9.0 \end{array}$$

+1.2

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

+60

$$\begin{array}{r} +5.8 \\ 9.5 \end{array}$$

+4.0

$$\begin{array}{r} +3.4 \\ 8.9 \end{array}$$

-323

+75

$$\begin{array}{r} +10.0 \\ 10.5 \end{array}$$

+7.6

$$\begin{array}{r} +6.0 \\ 9.5 \end{array}$$

257

$$\begin{array}{r} +12.4 \\ 11.1 \end{array}$$

+10.6

$$\begin{array}{r} +9.2 \\ 10.3 \end{array}$$

Boulder $2.0 \times 6.0 \times 7.0 = 3.1$

+20

$$\begin{array}{r} +11.8 \\ 11.0 \end{array}$$

+10.2

$$\begin{array}{r} +9.0 \\ 10.3 \end{array}$$

+55

$$\begin{array}{r} +7.8 \\ 10.0 \end{array}$$

+6.6

$$\begin{array}{r} +6.8 \\ 9.7 \end{array}$$

Boulders $\begin{array}{l} 2.0 \times 6.0 \times 8.0 \\ 4.0 \times 6.0 \times 10.0 \end{array} = 12.4$

257+85

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

0.0

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

Areas. Cub. yds.
Exc. Emb. Exc. Emb.

9664

3.

65.6

6.7

558

10420

5.

54

651

50

1295

5.

1.1

145

2620

5.

4.5

185

7360

5.

187

59.3

255+55 to 257+85

Exc.

1218.8 cu.

Class Ships Lo R

215.7 "

Balance. Lo R

1003.1 "

140.00

5.

54.8

157.3

Haul 164.4 yds. to free

" 18.1 " 70 "

" 570 from 256+85 to 254+90 = 1112

199.82

5.

44.6

" 160 " 257+30 " 258+50 = 192

3.1 = Total Haul

1304

145.0

191.83

5.

61.3

204.3

12341

5.

10.9

12.4

68.6

1082.5

0.00

0.00

136.355.

1218.8

Ward

Sta Grade

L. C. R

2 258

$$\begin{array}{r} -0.8 \\ 8.7 \end{array} \quad -2.2 \quad \begin{array}{r} -6.6 \\ 16.1 \end{array}$$

+35

$$\begin{array}{r} -5.2 \\ 14.2 \end{array} \quad -7.0 \quad \begin{array}{r} -9.4 \\ 19.9 \end{array}$$

+50

$$\begin{array}{r} -4.4 \\ 13.1 \end{array} \quad -7.0 \quad \begin{array}{r} -12.4 \\ 24.1 \end{array}$$

+75

$$\begin{array}{r} -3.0 \\ 11.5 \end{array} \quad -5.4 \quad \begin{array}{r} -9.8 \\ 20.5 \end{array}$$

+85

$$\begin{array}{r} 0.0 \\ 8.0 \end{array} \quad -4.8 \quad \begin{array}{r} -11.4 \\ 22.7 \end{array}$$

Boulders $\begin{array}{l} 3.0 \times 3.0 \times 8.0 \\ 2.0 \times 6.0 \times 7.0 \end{array} = 58$

259

0.502090

$$\begin{array}{r} 0.0 \\ 8.0 \end{array} \quad -4.6 \quad \begin{array}{r} -12.0 \\ 23.5 \end{array}$$

+25

$$\begin{array}{r} -3.4 \\ 12.1 \end{array} \quad -6.0 \quad \begin{array}{r} -9.0 \\ 20.0 \end{array} \quad \begin{array}{r} -13.4 \\ 25.5 \end{array}$$

+50

$$\begin{array}{r} -3.4 \\ 12.1 \end{array} \quad -5.4 \quad \begin{array}{r} -9.6 \\ 20.2 \end{array}$$

+65

$$\begin{array}{r} 0.0 \\ 8.0 \end{array} \quad -3.2 \quad \begin{array}{r} -6.8 \\ 16.4 \end{array}$$

Boulders $\begin{array}{l} 5.0 \times 10.0 \times 12.0 \\ 4.0 \times 8.0 \times 10.0 \end{array} = 34.1$

259+75

$$\begin{array}{r} +0.4 \\ 8.1 \end{array} \quad \begin{array}{r} 0.0 \\ 4.0 \end{array} \quad -3.0 \quad \begin{array}{r} -6.4 \\ 15.8 \end{array}$$

Areas. Cub. Yds.

Exc.	Emb.	Exc.	Emb.
	521.3		146
			1446
	170.45		998
	189.00		148.2
	131.20		453
	113.58		58
			63.3
	114.45		5.8 SR.
			115.9
	135.85		124.3
			54.3
000	62.84		34.1
			0.1
			21.3
0.80	52.10		2.1
			158
			36.3
			847.4

Sta 258+90
Exc. 5.8 cu.

WAD

Sta	Grade	L	C	R
259+85		$\frac{+4.2}{9.1}$	$\frac{00}{3.0} - 2.2$	$\frac{-4.4}{13.1}$
260		$\frac{00}{8.0}$	-4.0	$\frac{-4.0}{12.0}$
+05		$\frac{-1.8}{9.1}$	-4.0	$\frac{-5.6}{14.7}$
+25		$\frac{-2.8}{11.2}$	-3.0	$\frac{-7.4}{17.2}$
+50		$\frac{-4.4}{13.1}$	-6.0	$\frac{-9.0}{19.4}$
+65		$\frac{-7.2}{16.9}$	-8.6	$\frac{-10.6}{21.6}$
+80		Box Culvert 2x2 1/2 x		
260+85		$\frac{-11.6}{23.0}$	-12.6	$\frac{-17.2}{30.7}$
261+10		$\frac{-3.0}{11.5}$	-4.8	$\frac{-9.5}{20.0}$
+25		$\frac{-1.4}{9.1}$	-2.6	$\frac{-3.8}{15.0}$
261+50		$\frac{00}{8.0}$	-1.8	$\frac{-3.4}{12.1}$

- 2.79

Areas.		Cub Yds.		
Exc.	Emb.	Exc.	Emb.	
1050	3311	36.3	847.4	Sta. 209+65 to 260
		19	24.5	Exp. 420 cu. L.R.
		38.2		
000	5500	3.8	54.	
		42.0		
			120	
	74.70			
			56.7	
	78.30			
			103.1	
	144.40			
			103.4	
	227.85			
			247.0	
	439.11			
			258.5	
	119.35			
			48.8	
	56.53			Sta 261+25 Borrow
				for Backfilling
				and dressing top
			40.1	= 29.7 cu. L.R.
				See Page 66.
	29.99		56.9	
			1798.4	

Sta	Grade	L	C	R
261+75		$\frac{30}{115}$	-44	$\frac{64}{158}$
261+90		$\frac{00}{80}$	-30	$\frac{62}{157}$
262+10		$\frac{+08}{82}$	$\frac{00}{40}$ -10	$\frac{-18}{97}$
+30		$\frac{+15}{84}$	$\frac{00}{30}$ -05	$\frac{-30}{115}$
+40	-279	$\frac{+17}{84}$	+06	$\frac{00}{80}$
+55		$\frac{+16}{84}$	00	$\frac{-22}{103}$
+70		$\frac{00}{80}$	-15	$\frac{-48}{142}$
+85		$\frac{-40}{130}$	-55	$\frac{-82}{193}$
262+95		$\frac{00}{80}$	-25	$\frac{-50}{145}$
263+05		$\frac{+46}{92}$	+25	$\frac{00}{80}$

Areas. Cub. yds.
Exc. Emb. Exc. Emb.

92.96

1798.4

41.7

0.00

5725

s.

4.4

0.4

26.1

160

13.15

s.

1.6

2.0

10.1

Sta 26+90 to 26+70

Exc

371 cu.

Class slips to R 79

Balance to R 29.2 "

375

14.13

s.

0.4

2.9

1.7 Hauled alongside pier

1172

0.00

s.

1.1

5.0

1.4

640

7.70

s.

0.4

1.2

11.4

19.4

0.00

33.45

17.7 54.

37.1

45.8 Sta. 25+85 to 26+05

Emb.

1975.0 cu.

made from cuts

131.53

32.8

0.00

45.63

slip

0.2

4.9

5.6

3990

0.00

s.

1.6

1975.0

44.4

57.1

Sta	Grade	L	C	R
263 + 25		$\frac{+79}{100}$	+48	$\frac{+11}{83}$
+35		$\frac{+7.0}{98}$	+43	$\frac{00}{80}$
+50	- 279	$\frac{+56}{94}$	+15	$\frac{00}{40} \frac{+44}{136}$
+75		$\frac{+12}{83}$	$\frac{00}{50}$ -16	$\frac{-93}{206}$
264		$\frac{+23}{86}$	+11	$\frac{00}{80}$

Areas Cub Yds.
Exc. Emb. Exc. Emb.

79.92

57.1
4.2
27.1

Sta 262495 to 262

Exc. 191.5 cu.
Class slips L.R. 15.3 "
Balance to R 176.2 "

66.27

0.00

0.7
27.4 1.2

Hauled to and
alongside tree

32.45

6.60

1.3
15.9

27.5

Sta 263435 to 264

Emb 44.9 cu.
made from cuts

1.80

52.68

1.3
9.3

16.2

144.3

44.9

18.33

0.00

54.47.2
191.5

Borrow Pit on Left 239+90 to 240+25

Center Line of Pit = Center of Line

Sta	L	C	Areas	Cub. Yds.
239+90		$\frac{00}{80}$		
	+106	$\frac{+20}{85}$		
240+05	250	$\frac{00}{20.0}$	0.80	148
	+102	$\frac{+10}{8.3}$	79.95	
+15	250	$\frac{00}{116}$		19.5
	+119	$\frac{00}{96}$	25.33	
+25	108	$\frac{00}{80}$	0.80	<u>48</u>
				39.1

Borrow Pit on Left 237 to 237+60

Center Line of Pit = Center of Line

237	+160	$\frac{+16}{94}$	$\frac{00}{84}$		
	98	$\frac{+16}{95}$	$\frac{00}{160}$	2.04	238
+10	+166	$\frac{+16}{97}$	$\frac{00}{150}$	126.45	
	330	$\frac{+16}{97}$	$\frac{00}{130}$	162.84	133.9
+35	+216	$\frac{+16}{97}$	$\frac{00}{80}$		40.4
	400	$\frac{+16}{97}$	$\frac{00}{80}$	55.25	
+45	+110	$\frac{+16}{97}$	$\frac{00}{80}$		10.3
	200	$\frac{+16}{97}$	$\frac{00}{80}$	0.00	<u>208.4</u>
+60					

Surface Ditch on Left

Station	SIZE	Total Exc.	L.R.	S.R.
214+55 to 217+90	2.0 x 3.5 x 235.0			
	2.0 x 4.0 x 100.0	90.5	36.2	54.3
		90.5	36.2	54.3

60+25 Borrow Pit on Left 261+25 to 261+60

Center of Pit = Center of Line.

Sta. 261+25	00	000	
	$\frac{00}{26.0}$	$\frac{+14}{23.0}$	$\frac{+14}{15.0}$
+30	00	18.20	1.1
14.8	$\frac{00}{24.0}$	$\frac{+2.0}{20.0}$	$\frac{+2.0}{7.0}$
+45	00	37.00	15.3
19.5	$\frac{00}{22.0}$	$\frac{+1.6}{16.0}$	$\frac{+1.6}{8.0}$
+55	00	26.40	11.7
4.8	$\frac{00}{39.1}$	$\frac{+1.0}{2.0}$	$\frac{+1.0}{2.0}$
+60	00	000	1.6
			29.7 ✓

Borrow Pit on L 236+20 to 237

	236+20	$\frac{+36}{9.8}$	$\frac{(+31)}{8.8}$	$\frac{00}{8.0}$	1.35	
		$\frac{+6.2}{12.6}$	$\frac{(+35)}{9.6}$	$\frac{00}{10.0}$	9.24	3.9
238	+40	$\frac{+29.8}{59.0}$	$\frac{(+5.2)}{9.3}$	$\frac{00}{30.2}$		83.9
	+50	$\frac{+24.2}{48.0}$	$\frac{(+5.2)}{9.3}$	$\frac{00}{18.0}$	44.401	302.4
33.9	+75	$\frac{+7.8}{14.8}$	$\frac{(+5.3)}{9.3}$	$\frac{00}{11.0}$	209.27	43.3
40.4	+85	$\frac{+6.0}{9.8}$	$\frac{(+5.6)}{9.4}$	$\frac{00}{8.4}$	24.65	7.4
10.3						
<u>08.4</u>	237				2.04	<u>440.9</u>

Allow only 300. Cuts account
of waste from Cuts ahead.

R SR

6.2 54.3

2 54.3

247.5
300

Clearing

Stations	Width	Sq. Ft.
211-222	65'	71500 ✓
222-240	75'	135000 ✓
240-250	60'	60000 ✓
250-256	55'	33000 ✓
256-264	70'	56000 ✓
		355500 = 8 ¹⁶ Acres

Box Culverts

260+80	2 x 2 $\frac{1}{2}$ x 48' inside	1609 Ft. BM
256+30	1 x 2 $\frac{1}{2}$ x 16'	450 " "
		2059 Ft. BM

es

4. BM

"

BM

Section 5

Page	Acres	Excavation - Cub Yds				
		Clearing	Cut	Earth	Lo. Rock	S. Rock
2	39		✓			
2	40		✓	16809	✓	7708
	41		✓	27		9101
2	42					27
2	43		✓	23903	✓	2365
	44				✓	21538
2	46		✓	32272	✓	3413
2	47				✓	28859
	47					
	48		✓	7564	✓	557
	50		✓	8566	✓	7007
	51				✓	737
	52					7829
	53		✓	13909	✓	4867
	54				✓	9042
	56		✓	27365	✓	4462
	57				✓	22903
	58		✓	886	✓	101
	59		✓	12012	✓	785
	60				✓	1465
	60				✓	10547
	61		✓	12188	✓	2157
	62		✓	58	✓	10031
	63					58
	64		✓	420		420
	65		✓	371	✓	79
	65		✓	1915	✓	292
	66		✓	905	✓	153
	67	8.16			✓	362
					✓	543
		8.16	✓	15917.0	✓	2842.6
					✓	13074.4

Cu. Yds
Total

Bar

131

168

396

6

13

19

21

22

14

1

7

19

169

Summary

Cu. Yds.	Cu. Yds.	Borrow - Cu. Yds.	Cu. Yds.	Lumber in Culverts
Total in Banks made				
Banks from Cuts	Lo Rock	S. Rock	Haul	Ft. BM
✓ 13.2	✓ 13.2		✓ 4800.	
✓ 1314.2	✓ 1314.2		✓ 4195.	
✓ 688.5	✓ 688.5		✓ 13220.	
✓ 3966.4	✓ 3966.4		✓ 1140.	
✓ 638	✓ 638		✓ 547.5	
✓ 36.2	✓ 36.2		✓ 2139.	
✓ 1911.2	✓ 1911.2		✓ 4096.	
✓ 2168.3	✓ 11620.8		✓ 2245.	
✓ 22796.	✓ 22796.		✓ 1304.	
✓ 1424.9	✓ 1424.9			
✓ 143.0	✓ 143.0			
✓ 183.0	✓ 183.0			
✓ 734.4	✓ 734.4			
✓ 29.7	✓ 29.7			
✓ 1975.0	✓ 1975.0			
✓ 44.9	✓ 44.9			
✓ 16976.3	✓ 16399.1	✓ 29.7	✓ 547.5	✓ 33139.
				✓ 2059.

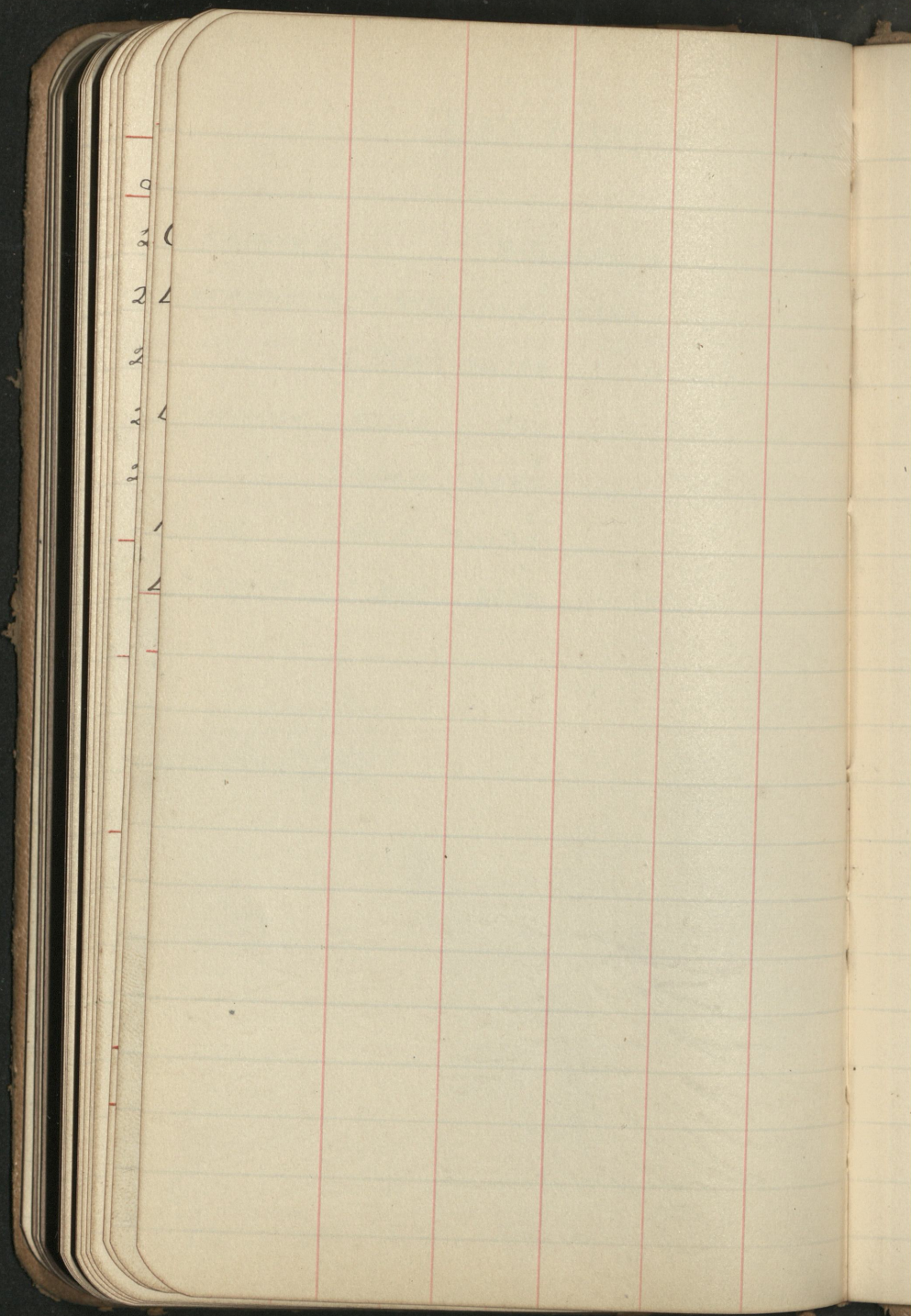
SECTION 5 COST

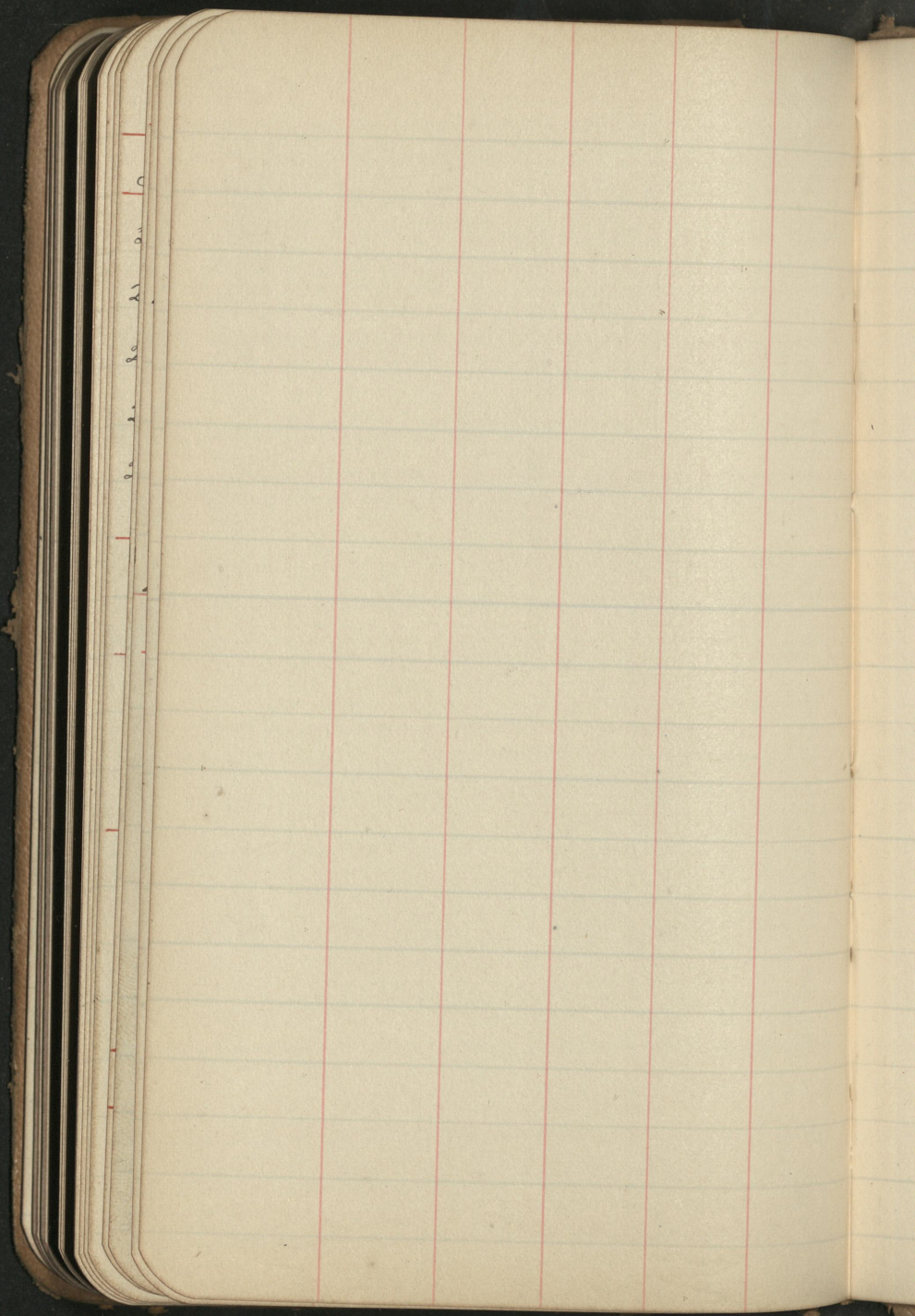
2	CLEARING	8.16 ACRES @ 35.00	✓	✓	285.60
2	EXCAVATION. L. ROCK	28426 CU. YDS	45	✓	1279.17
2	" S. ROCK	130744	"	.90	11766.86
2	BORROW L. ROCK	297	"	.40	11.88
2	" S. ROCK	547.5	"	.90	492.75
2	HAUL	100 FT 33139	"	.01½	497.08
2	LUMBER FT. BM	2059	12.00	✓	24.71
					14358.15

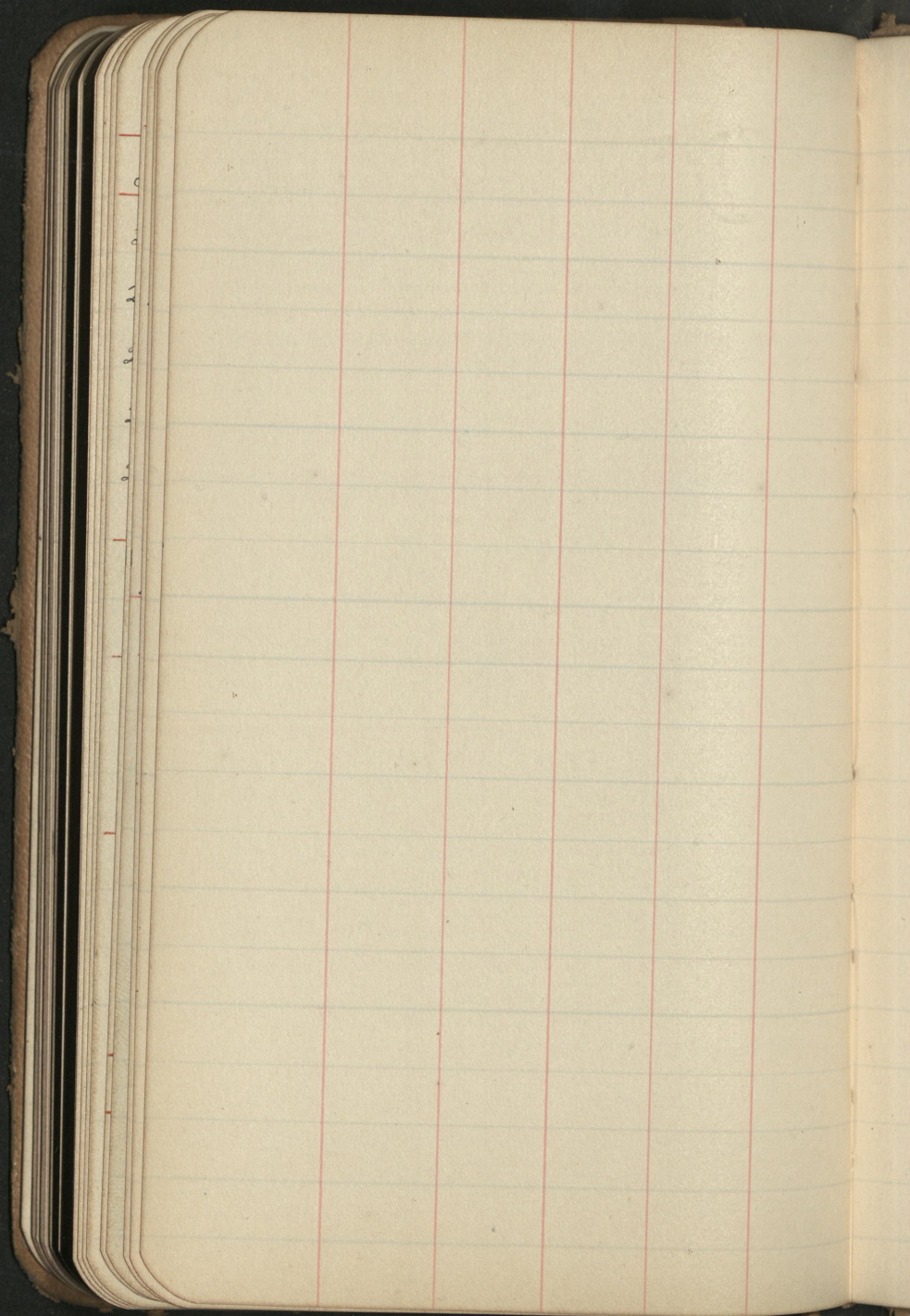
✓ ~~2471~~

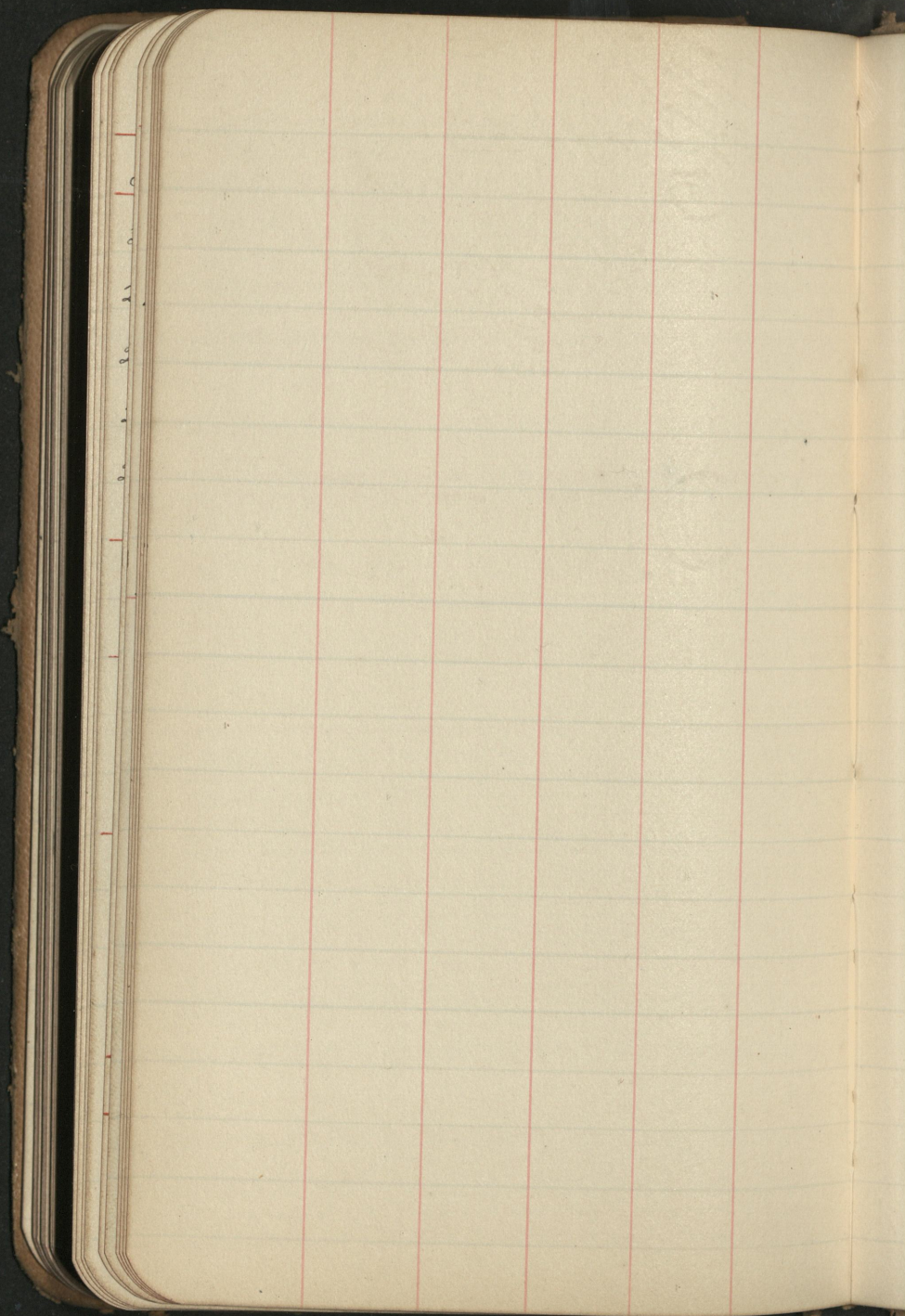
COST

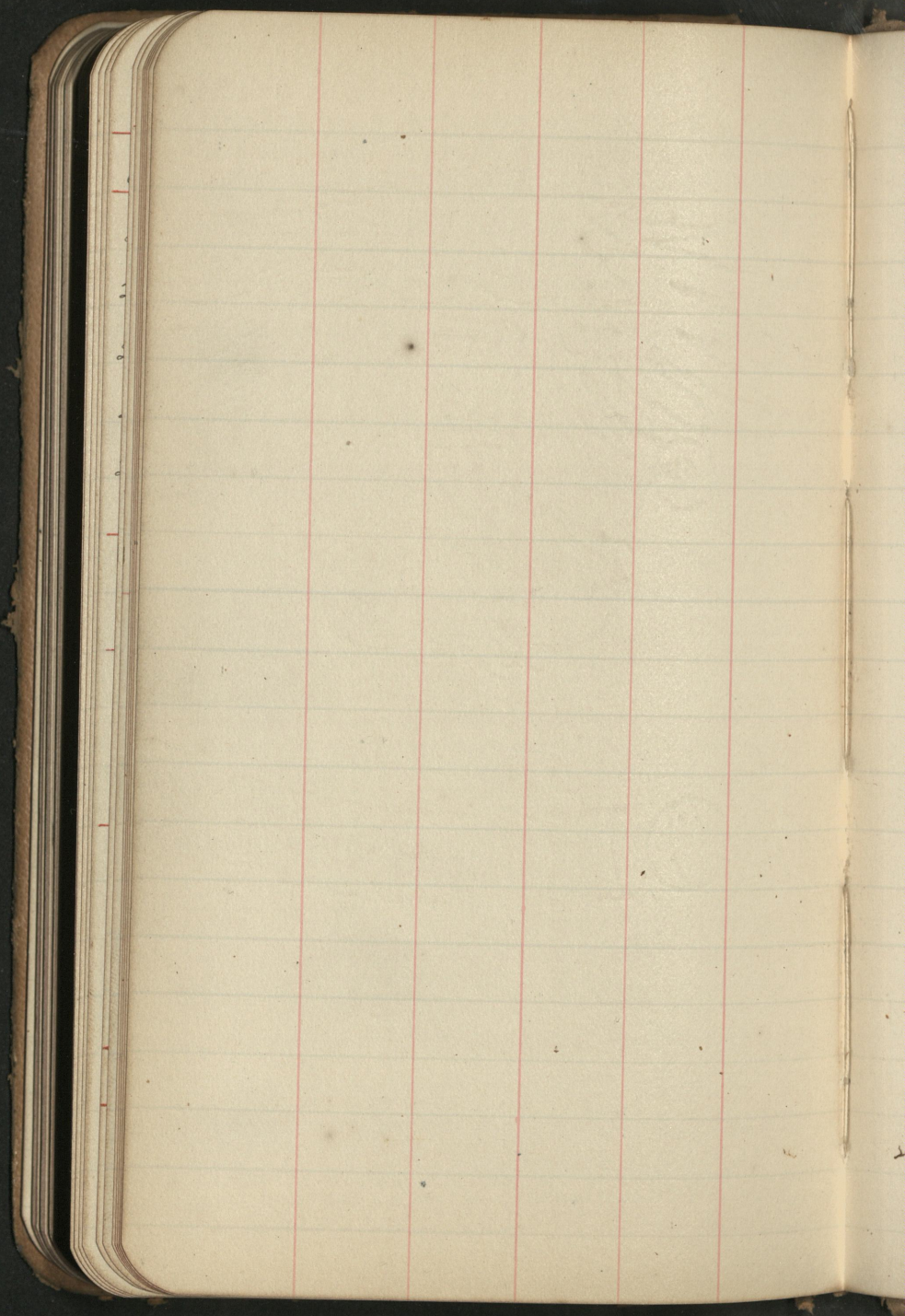
✓
✓
285.60✓
✓
1279.17✓
✓
11766.86✓
✓
11.88✓
✓
492.75✓
✓
497.08✓
✓
24.71✓
14358.15~~14358.15~~✓
14358.15

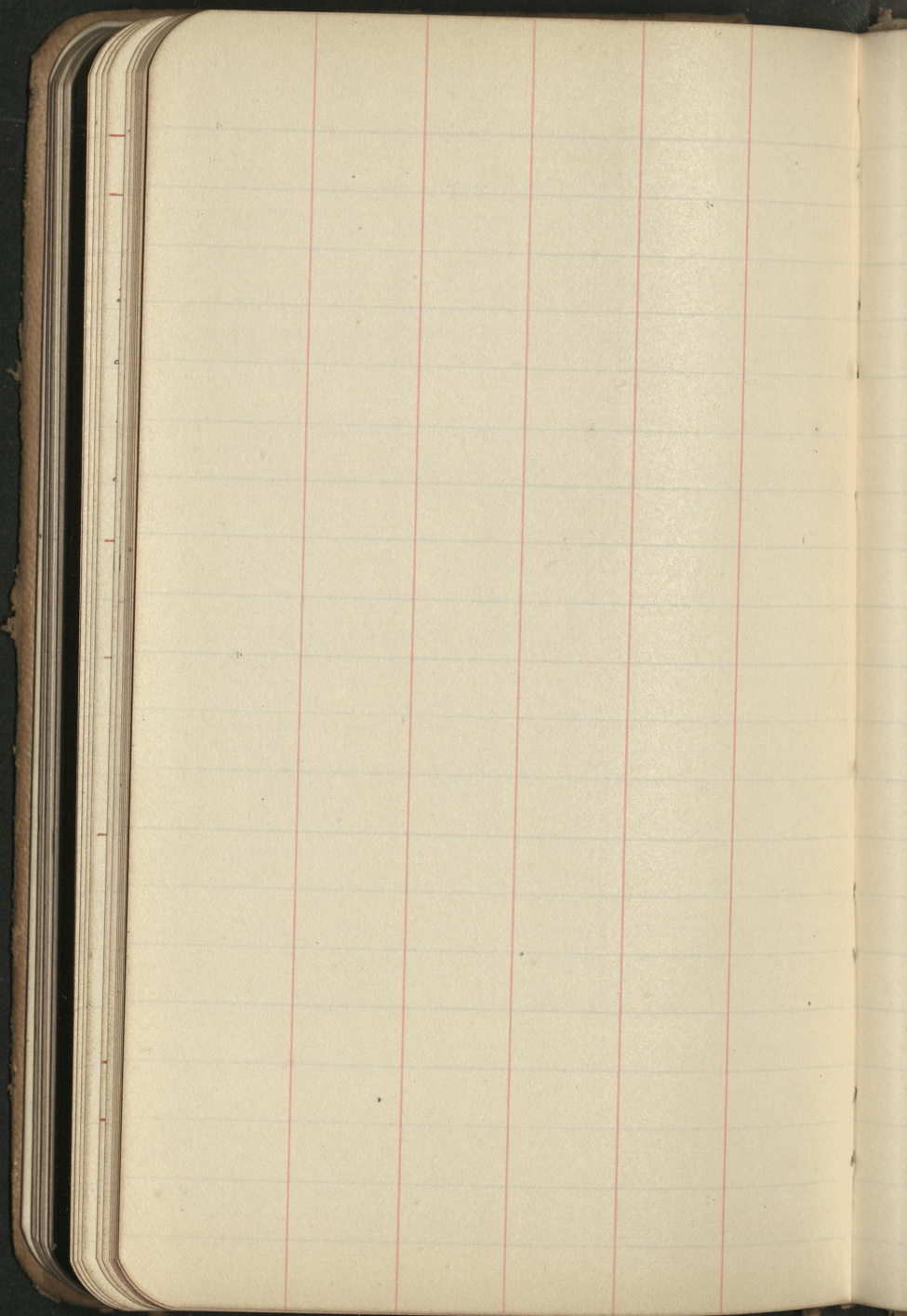




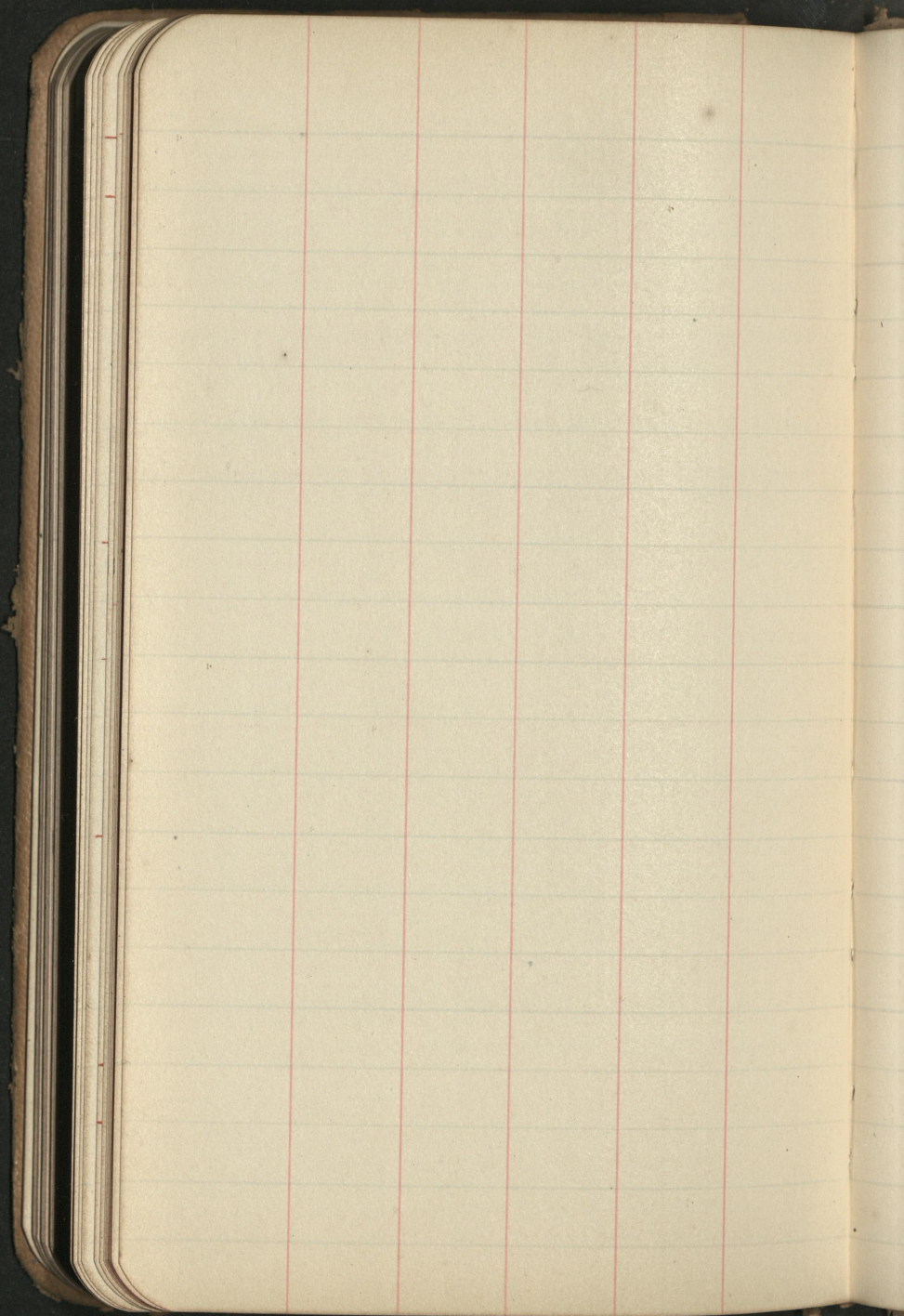


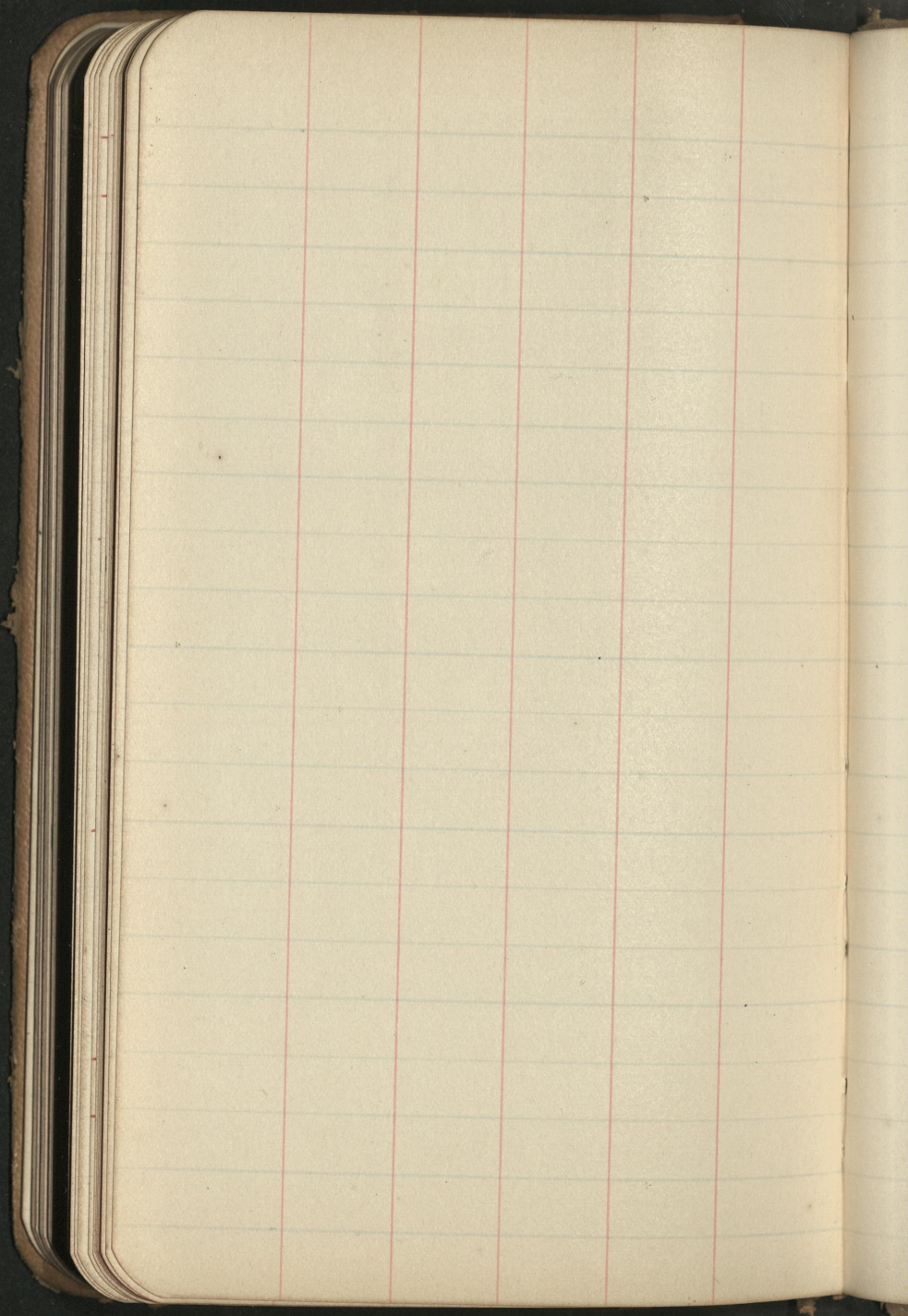






75





26

25

25

24

24

24

24

23

Reference Points. 78

L C R.

262+81³ P.T.

257+45 P.S.

250+579 P.T.

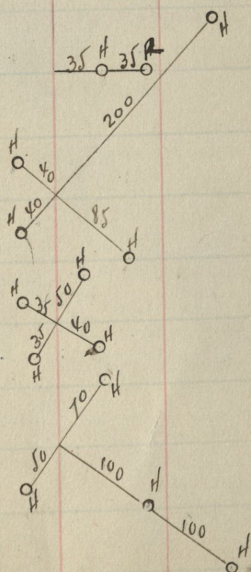
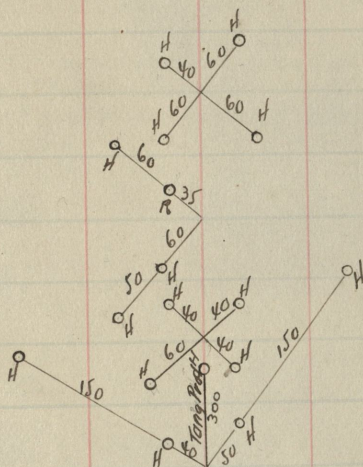
246+71 P.S.

245+88¹ P.T.

241+36 P.C.

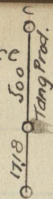
240+258 P.T.

236+50 P.S.



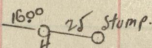
L S R
Reference Points

236+50



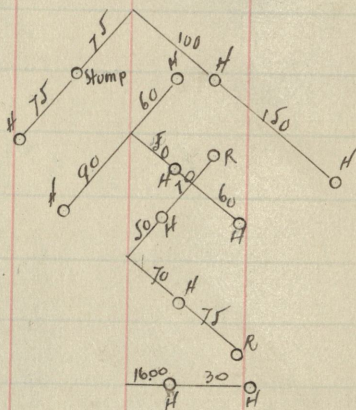
236+328 P.T.

228+87 P.S.



223+815 P.T.

217+94 P.C.



214+873 P.T.

211+415 P.C.

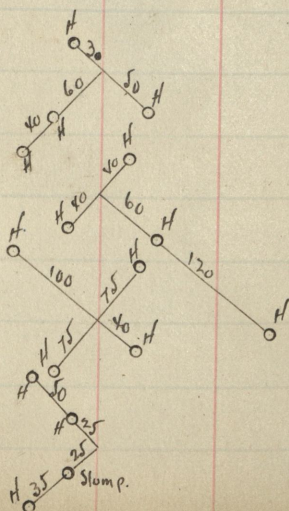
208+003 P.T.

203+67 P.C.

= 202+10 ford.

239+165 P.T.

236+456 P.C.



Reference Points 79

L C R

229+68
229+68 P.C.

224+179 P.T.

221+49 P.C.

218+497 P.T.

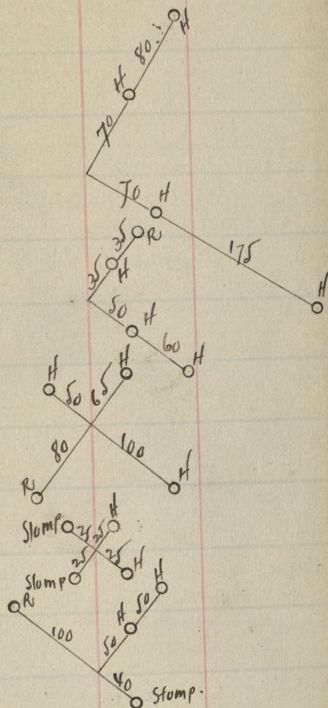
215+83 P.C.

206+548 P.T.

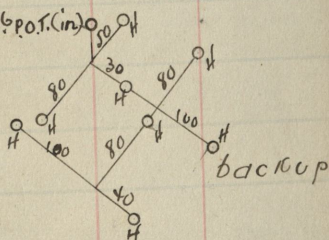
203+78 P.C.

206+50 P.T.

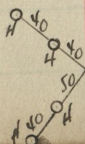
205 P.O.C.



206+906 P.O.T. (in)



on Tail



Bench Marks.

			Elevation
2	on Rock 15' R	Std 208+50	5393.34
	on Oak Stump 20' L	" 218+40	5265.31
2	on Rock 35' L	" 232 Tail	5234.09
	on Rock 40' L	" 202+25	5204.93
2	on Rock 50' R	" 217+30	5134.36
	on Oak Stump 40' R	" 228+75	5123.51
2	on Oak Stump 20' L	" 235+75	5105.40
	on Oak Tree 35' R	" 243+75	5057.23
2	on Juniper Tree 40' L	" 254	5041.09
	on Oak Tree 30' L	" 262+75	5014.24

2

2

2

=

2

2

ion

34

31

09

93

36

51

40

23

09

24

